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*An Attractive Planting of Evergreens*

*A sense of the "Fitness of things" is the basis of good design and an essential of all the fine arts. We create beautiful grounds by tasteful selection and arrangement of plant materials, quality products, correct planting and proper care.*



*What a Vista of Interesting Color Harmonies to Stay With You All Summer*

# NEOSHO NURSERIES CO.

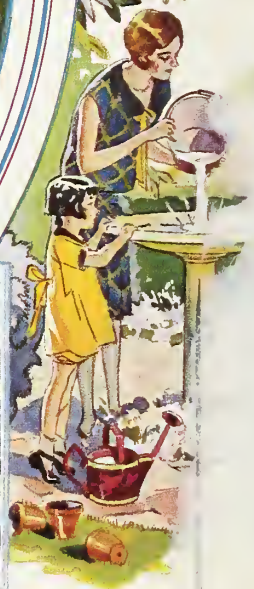
NEOSHO, MISSOURI

*"Yours for Growing Satisfaction"*

MEMBERS OF NATIONAL HOME PLANTING BUREAU



"IT'S NOT A HOME UNTIL IT'S PLANTED"



## THE OUTDOOR LIVING ROOM

BEAUTIFUL outdoor living rooms are the outward symbol of prosperous, modern, happy homes. Where the trees give welcome shade, where shrubs hide undesirable views, where flowers beckon doors. Here the children may play in safety. They will love their home and be proud of it.

Beautiful home surroundings will bring joy and pride to you and your family and will increase the value of your property far in excess of the cost.

"I've been offered \$10.00 an acre more than top price before I did the planting." That is true with hundreds of farm homes as well as with urban properties.

Let us help you to make your home a place of beauty with never-ending appeal to each member of the family.

*The picture above was used in advertising put out by the National Home Planting Bureau of which we are members and subscribers.*

NEOSHO NURSERIES COMPANY  
Neosho, Missouri







"Yours for Growing Satisfaction"

# NEOSHO NURSERIES Co.

GENERAL NURSERYMEN & ORCHARDISTS  
Owning and Operating over 400 Acres  
NEOSHO, Mo.

M. VAUGHN WOODARD  
LANDSCAPE ARCHITECT

OFFICERS  
JOSIAH J. HAZEN  
PRESIDENT  
A. E. WESTON  
VICE-PRESIDENT  
G. B. WILLIAMS  
TREASURER  
P. M. RANSOM  
SECRETARY

We call this catalog "Neosho Growers' Guide," because in it we have included information formerly presented in our "How to Beautify Your Home Grounds" and "Inside Facts of Profitable Fruit Growing." It contains, in condensed form, fundamental principles on the uses of plant materials, both fruit and ornamental, which will help those who have no available sources of reliable information and those who may be exposed to the advice of self-styled landscape gardeners, or orchardists with little training.

This Guide also contains information on arrangement, planting and after care which should assist our customers in securing the most satisfactory results with our quality products.

Our Slogan, "Yours for Growing Satisfaction," was originally adopted to impress prospective customers with the fact that this company is interested in the success of its customers. It has been and is today most effective upon our own organization, every member of which is "sold" on the idea that we must not only supply a superior product, but must also help the customer to enjoy satisfactory results. Without this spirit in our dealings our material advantages would be more or less wasted.

We do have exceptional facilities for growing, handling, storing and shipping nursery stock. We are capable of furnishing sound advice on selection, arrangement and care of fruit and ornamental plant materials and have made Neosho Nurseries "A safe place to buy."

The Neosho Nurseries Company is incorporated with a capital of \$150,000.00. They own over 400 acres of land, with a 25-acre apple orchard and stock blocks for the propagation of true-to-name trees and plants and have the best

of equipment. Our office and packing house at Neosho covers 37,000 square feet. At Newtonia, 11 miles east of Neosho, where most of our land is situated, we have many buildings, including a concrete storage house where the stock is sorted and graded without exposure to drying sun or wind or extreme temperatures.

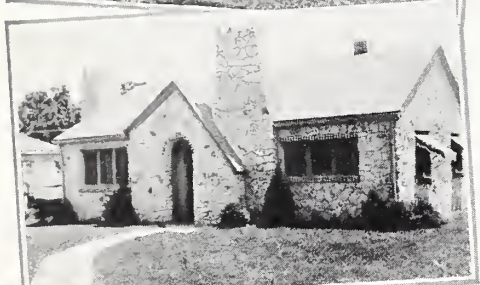
We have customers in every State who are enjoying satisfactory results with our Stock and Service.

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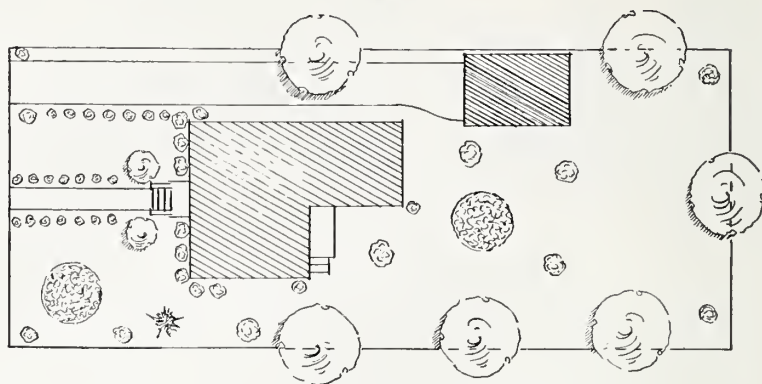
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# People in Every State Endorse Our Service



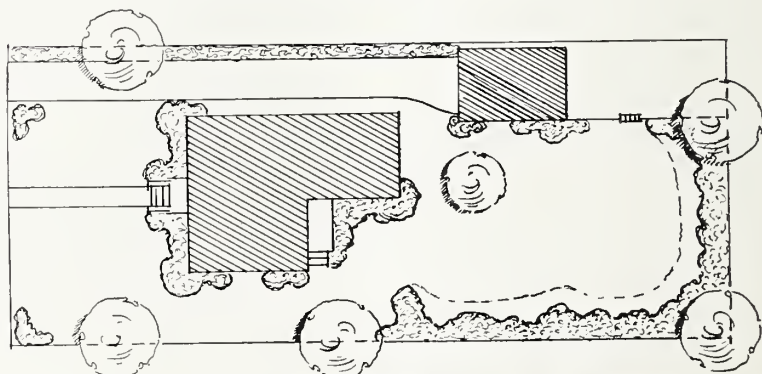
ABOVE—are several examples of attractive plantings of Neosho stock with Landscape Plans by our Mr. Woodard.



## The Wrong and the Right Way

These two illustrations prepared by our Landscape Architect illustrate the right and the wrong way to plan a yard. **Above**—a perfect example of what **not** to do. Lawns cut up with flower beds and shrubs, trees incorrectly placed, foundations exposed by lack of planting, no screen at the rear of grounds, etc. Study the principles on the opposite page and avoid these faults in your grounds.

**Below**—is shown an ideal plan with open expanse of lawn, with correct foundation plantings, border plantings screening the back yard, hedge edging the driveway, trees located for shade, etc.



This is a view at Reed's Lodge, owned by Frank Reed of Neosho, Mo. This beautiful place was planted with Neosho stock. Let us help you beautify your grounds.



This is the home of H. A. Wangerien, Santa Fe, New Mexico. We helped him plan his plantings and have sent him nursery stock every year for eight years.



WRONG



RIGHT





# The Principles of Beautiful Landscaping

The interest in beautifying private and public grounds is nation-wide. Everybody knows that the proper use of plant materials greatly enhances the attractiveness, comfort, and value of a home.

These results can only be obtained by the proper selection and arrangement of plant materials according to fundamental principles of landscape architecture or gardening. That calls also for knowledge of the characteristics of trees and plants, their form, color and season of bloom, and their habits of growth.

The home grounds are naturally divided into several parts or areas.

The Public Area or front yard serves as an entrance and a foreground for the house. This space is best kept open with trees located to frame the house or for shade and along the street. A hedge may be desirable or groups of shrubs or evergreens at the corners. But shrubs or flower beds in the open or along the walk would spoil the harmony of the picture. Planting around the porch and the house will link the house to the grounds, will soften the corners or emphasize desirable architectural features. Some houses require plantings only at the corners, at the entrances and possibly along the porch. Others may require lower growing shrubs or evergreens along the foundation with taller growers at the corners.

Along the sides of the lot hedges may suit the requirements, but when a larger space is available shrubs are preferable because of their variety in form, foliage and bloom. Shrubs are the most useful to outline the property, to divide the areas, to screen undesirable views and to frame the grounds.

The outlines of shrub plantings should be curved on the inside of the property and the heights should vary, thus avoiding straight unbroken lines along the top and along the edges. Several shrubs of a variety are almost always preferable to single specimens.

The Service Area is provided for the needs of the laundry, the kitchen and the automobile. It may include, also, a small vegetable or fruit garden.

The Private Area, the "Back Yard," offers the greatest possibilities of making an "Outdoor Living Room" providing many happy hours of pleasure, rest or recreation for the owners, their guests, and the children. It is necessary, of course, to screen any unsightly or unattractive views and it is also desirable to secure privacy. At the same time protection from sun and winds may be accomplished. The informal style calls for plantings along the outside portions of the area with shrubs, trees and evergreens. Along the inside edges of the shrubs is the place for perennials, bulbs and roses. In this area also may be used garden furniture, such as a shelter, bird bath, gazing globe or seat. The outline of the plantings should be in graceful curves with varying heights, the taller growers at the corners and in the rear of the beds and the smaller, more refined shrubs in front.

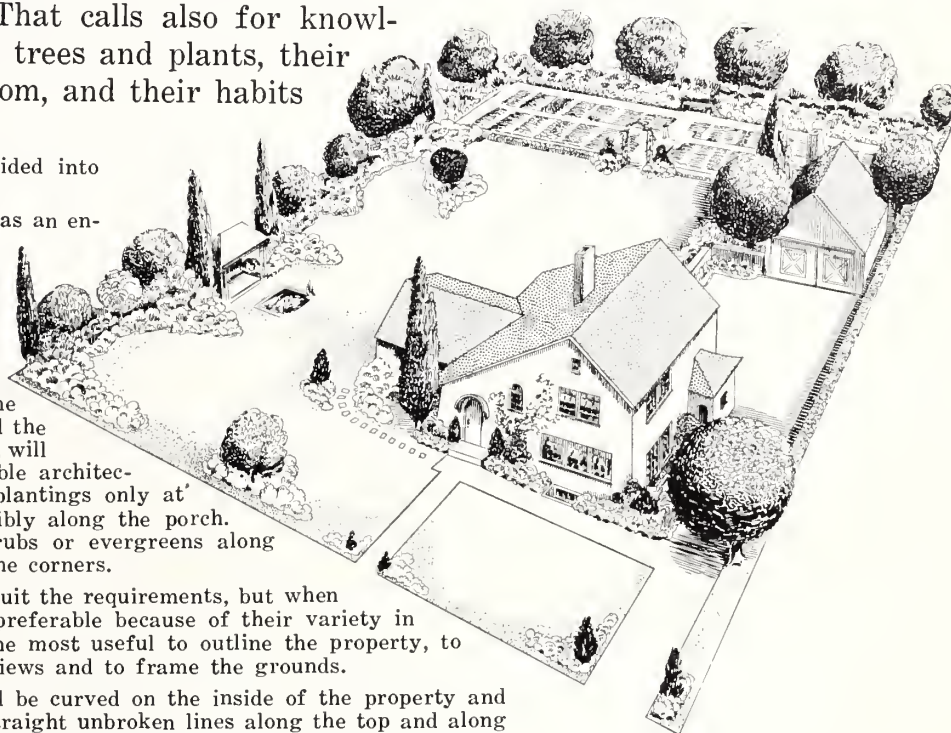
Every home, every private or public area presents a different problem and the creation of beautiful harmonious effects calls for knowledge and good taste.

Our Mr. Woodard is eminently well fitted by education, experience and natural ability to design plantings which please discriminating people whether the property is public or private, large or small. His plans and our plant material are giving satisfaction in many states from New England to New Mexico including a \$4,500.00 contract for a private estate in Arkansas.

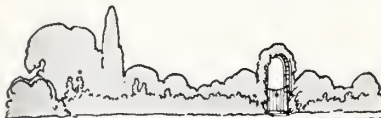
It is essential to have a complete plan at the start in order to secure harmonious results and reflect the taste and refinement of the owner.

We are often consulted even before the house is located because the proper placing of the house and garage with reference to the sun, the site, and the lawn area is of vital importance in securing the greatest comfort and enjoyment of the occupants and the most attractive effects.

Tell us about your problem and let us show you how we can help you solve it to your complete satisfaction.



UNSIGHTLY VIEWS



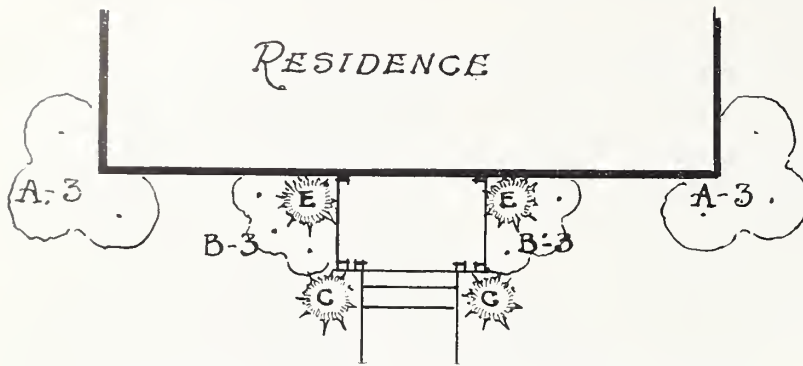
SCREENED WITH PLANTING



This illustrates an outdoor living room with its green carpet, its sweet flowering blooms so refreshing to all and its friendly trees which throw a kindly shade.



# Examples of Good Landscape Design

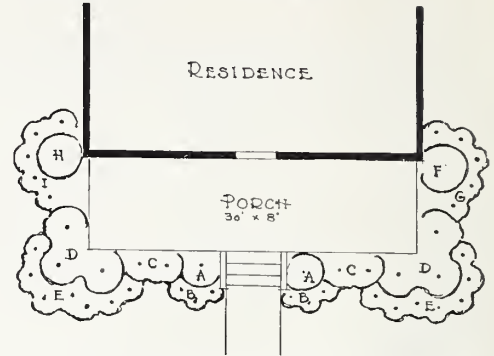


No. 5—SUNNY EXPOSURE

A = 6 Spirea Thunbergi.  
B = 6 Spirea Froebeli.  
C = 2 Globe Arborvitae.  
E = 2 Pyramidal Arborvitae.

No. 5—SHADY EXPOSURE

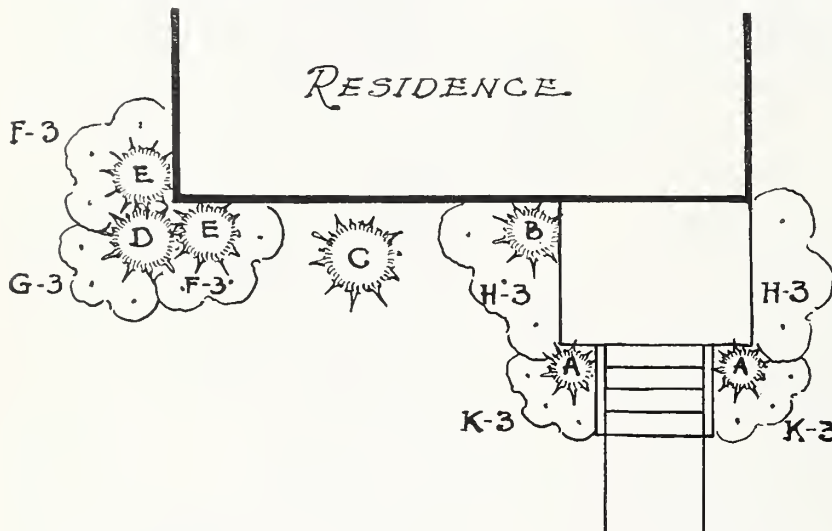
A = 6 Spirea Van Houttei.  
B = 6 Japanese Barberry.  
C = 2 Pfitzers Juniper.  
E = 2 Pyramidal Arborvitae.



No. 1—FACING SOUTH, EAST OR WEST

A = 2 Spirea Thunbergi.  
B = 6 Spirea Crimson, Froebeli.  
C = 4 Deutzia Lemoines.  
D = 6 Spirea Van Houttei.  
E = 14 Japanese Barberry.  
F = 1 Weigela Rosea.  
G = 5 Hydrangea A. G.  
H = 1 Mock Orange Virginalis.  
I = 5 Hypericum.

If house faces North, use Jetbead at A, Deutzia Gracilis at B, Japanese Barberry at I.



No. 6—SUNNY EXPOSURE

A = 2 Irish Juniper.  
B = 1 Pyramidal Arborvitae.  
C = 1 Pfitzers Juniper.  
D = 1 Pyramidal Arborvitae.  
E = 2 Golden Arborvitae.  
F = 6 Japanese Barberry.  
G = 3 Spirea Froebeli.  
H = 6 Hydrangea P. G.  
K = 6 Spirea Anthony Waterer.

No. 6—SHADY EXPOSURE

A = 2 Irish Juniper.  
B = 1 Pyramidal Arborvitae.  
C = 1 Pfitzers Juniper.  
D = 1 Virginiana glauca Juniper.  
E = 2 Cannarti Juniper.  
F = 6 Japanese Barberry.  
G = 3 Spirea Froebeli.  
H = 6 Hydrangea A. G.  
K = 6 Spirea Anthony Waterer.

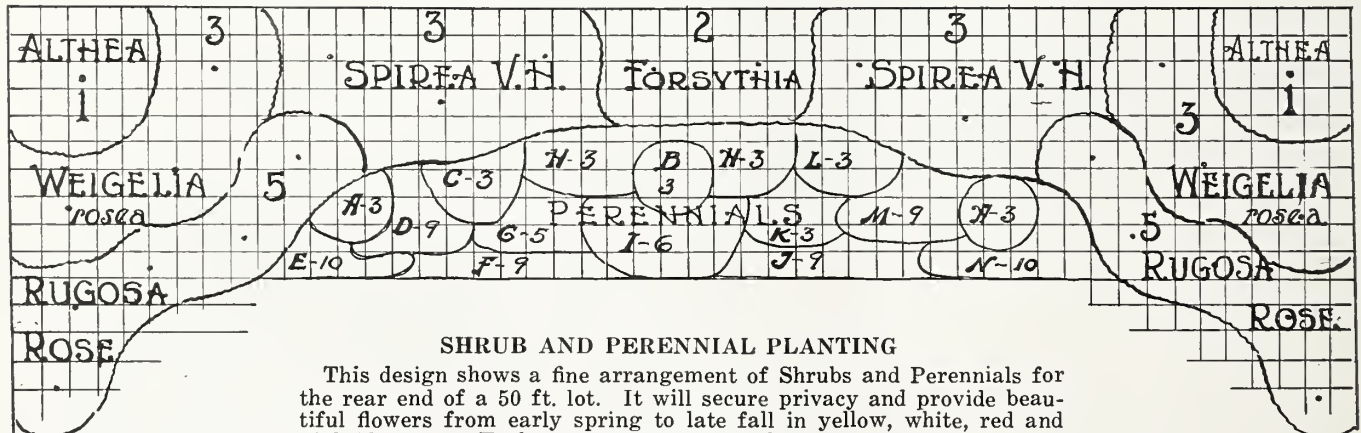


No. 2—FACING SOUTH, EAST OR WEST

A = 6 Jetbead (Kerria).  
B = 13 Beauty Berry.  
C = 1 Mock Orange, Lemoines.  
D = 3 Desmodium.  
E = 4 Spirea Van Houttei.  
F = 12 Japanese Barberry.

If house faces North use Deutzia Gracilis at B, Hydrangea A. G. at D.

50' 0"



## SHRUB AND PERENNIAL PLANTING

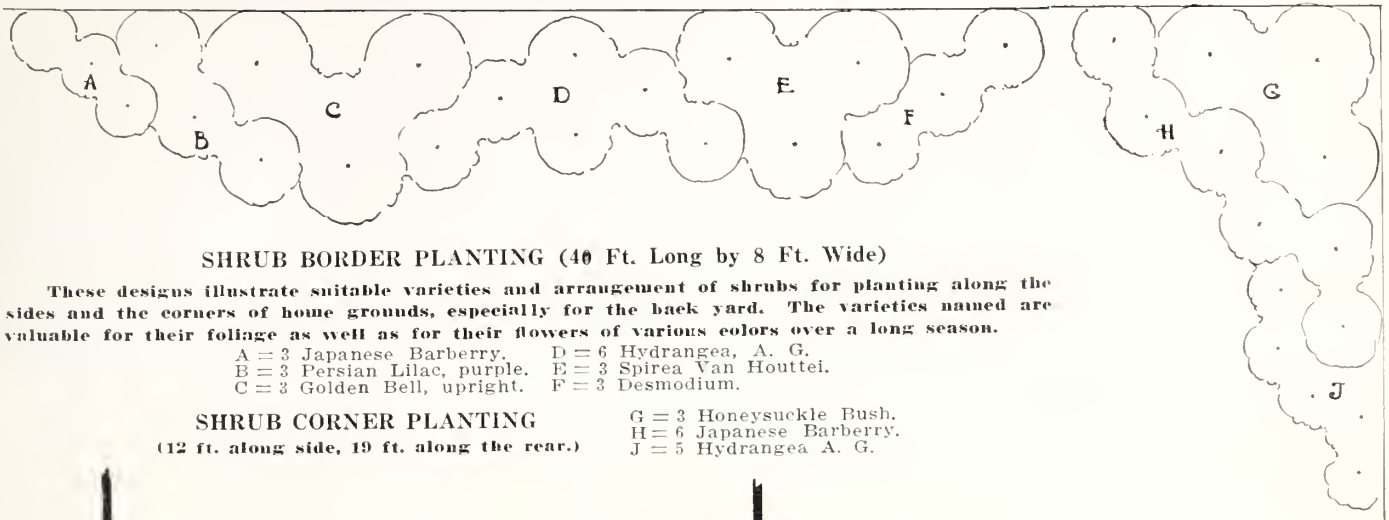
This design shows a fine arrangement of Shrubs and Perennials for the rear end of a 50 ft. lot. It will secure privacy and provide beautiful flowers from early spring to late fall in yellow, white, red and pink blossoms. Each square represents 1 ft.

A = 6 Chrysanthemum.  
B = 3 Delphinium.  
C = 3 Columbine.  
D = 9 Phlox, Beacon.  
E = 10 Phlox, Richard Wallace.

F = 9 Dianthus Plumarius.  
G = 5 Gaillardia.  
H = 6 Golden Daisy.  
I = 6 Shasta Daisy.  
J = 9 Sweet William.

K = 3 Spirea Astilbe.  
L = 3 Funkia Caerulae.  
M = 9 Pyrethrum.  
N = 10 Phlox, Thor.

# Good Design is the First Requisite



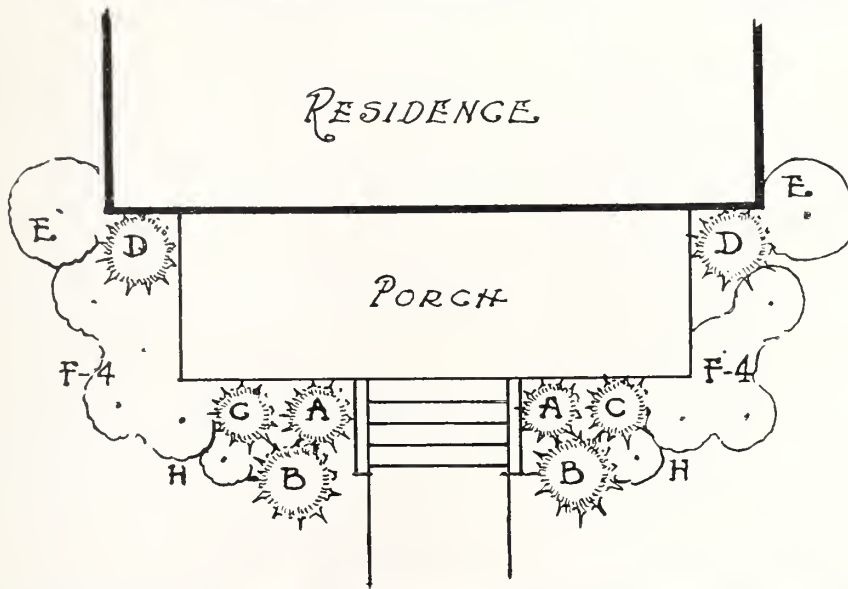
## SHRUB BORDER PLANTING (40 Ft. Long by 8 Ft. Wide)

These designs illustrate suitable varieties and arrangement of shrubs for planting along the sides and the corners of home grounds, especially for the back yard. The varieties named are valuable for their foliage as well as for their flowers of various colors over a long season.

A = 3 Japanese Barberry. D = 6 Hydrangea, A. G.  
B = 3 Persian Lilac, purple. E = 3 Spirea Van Houttei.  
C = 3 Golden Bell, upright. F = 3 Desmodium.

## SHRUB CORNER PLANTING (12 ft. along side, 19 ft. along the rear.)

G = 3 Honeysuckle Bush.  
H = 6 Japanese Barberry.  
J = 5 Hydrangea A. G.

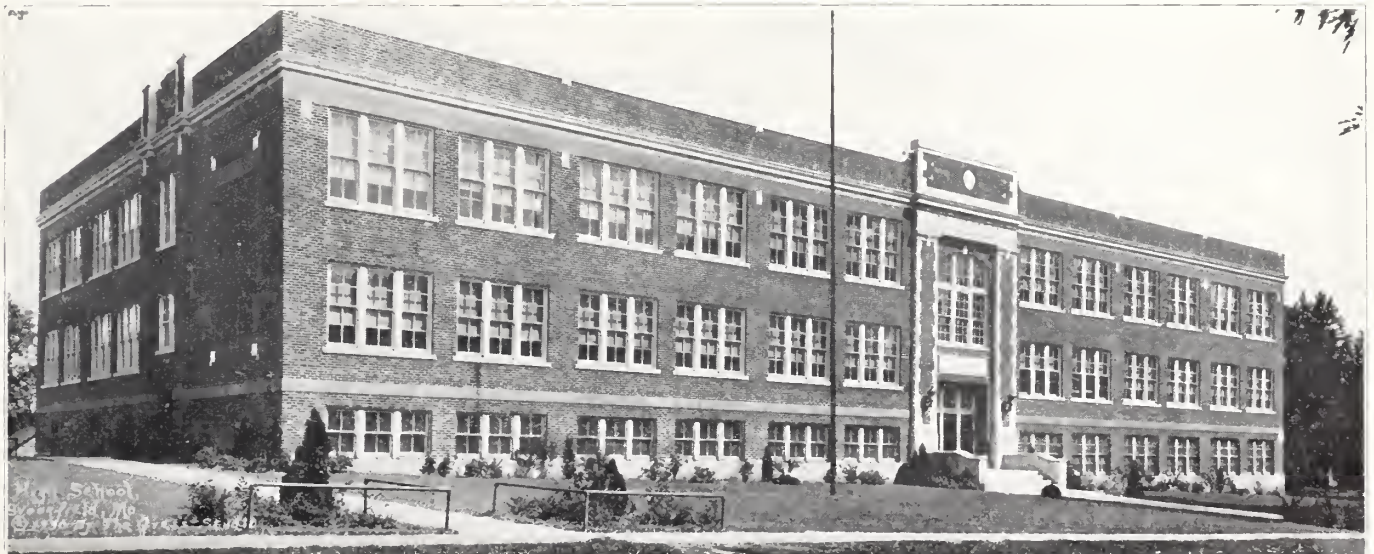


### No. 7—SUNNY EXPOSURE

A = 2 Pyramidal Arborvitae.  
B = 2 Pfitzers Juniper.  
C = 2 Rosedale Arborvitae.  
D = 2 Juniper Virginiana glauca.  
E = 2 Persian Lilac.  
F = 8 Spirea Thunbergi.  
H = 2 Red Leaf Barberry.

### No. 7—SHADY EXPOSURE

A = 2 Pyramidal Arborvitae.  
B = 2 Pfitzers Juniper.  
C = 2 Spiny Greek Juniper.  
D = 2 Cannarti Juniper.  
E = 2 Spirea Van Houttei.  
F = 8 Japanese Barberry.  
H = 2 Mahonia.



BROOKFIELD HIGH SCHOOL—PLANTED SPRING, 1930

"Last spring we had your Company design a landscape plan for our new two hundred thousand dollar high school. We approved the plan and bought the shrubbery and plants from your Company.

"We found the landscape plan a most excellent piece of work and the nursery stock to be strong and thrifty. Our high school ground has attracted much favorable attention. We have had many compliments on the appearance and many ques-

tions as to who laid out the design and where we got the stock.

"If we can be of service to you in order to repay you the many courtesies to us, feel free to call on us."

—L. V. Crookshank, Supt. Board of Education,  
Brookfield Public Schools, Brookfield, Mo.  
Dec. 3, 1930.



# Planting, Pruning and Care of Shrubs

## Planting Seasons

Plants can be moved with greatest success during their dormant period unless transplanted with a ball of earth about roots. Shrubs are dormant after buds have ripened and leaves have withered or dropped. This varies with different seasons and varieties.

Planting is done ordinarily from about October 15 up to the middle of December, and from about March 1st to May 1st. Further South planting is done later in fall and during winter. The earlier planting is done when soil is in good condition the better will be the results.

## Sizes of Shrubs

In the purchase of nursery shrubs the average sized plants are better for transplanting than extremely large sizes. The latter have to be pruned and cut back severely and will require as much time to produce the desired effect as the average sized.



These illustrations are from "The Complete Garden" and are used by permission of the author, Mr. Albert D. Taylor.



## Pruning Mature Shrubs

The object of pruning is to maintain the natural form and to preserve the flower and fruit bearing wood. Shrubs that bloom in spring or early summer should be pruned within two weeks after flowering. Those that bloom in late summer or fall, like Althea, Butterfly Bush, Hydrangeas and Snowberry, should be pruned in late winter or early spring before growth starts.

The Hydrangeas are pruned lightly for numerous small blossoms and are cut back severely if larger but fewer flowers are desired.

Butterfly Bush and Desmodium usually die back to the ground so the tops should be cut off entirely in late winter. The tops spring up quickly and make nice bushy specimens.

Shrubs valued for colored bark like Siberian Dogwood (*Cornus alba Siberica*), Globe Flower (*Kerria Japonica*), etc., should have some of the older canes removed each spring to encourage new growth which has the best color.

Lilacs and flowering Dogwood (*Cornus Florida*) should not be pruned except to remove dead or diseased branches.

## Winter Protection

It is alternate freezing and thawing that does the damage. Prevent this by a heavy mulch of straw, leaves or manure put on after ground freezes.

## Planting Distances

One must look ahead and picture in mind the effect when plants are mature, generally about three years.

For planting in masses or groups, spacing varies with variety and effect required:

	Close Planting	Normal Distance
Large. . . . .	3 ft. apart	4 to 5 ft. apart
Medium. . . . .	2½ ft. apart	3 to 4 ft. apart
Low. . . . .	2 ft. apart	2½ ft. apart

## Preparation of Soil

A shrub or plant crowded into a hole dug out of the sod cannot be expected to produce satisfactory results. Beds should be dug at least a foot deep and the soil made loose and friable. Unless the soil contains plenty of fertility, well-rotted manure should be thoroughly mixed with the dirt, but never put in contact with the roots.

## How to Plant

If not ready to plant when stock arrives, handle as described on page 40. Some "puddle" roots to prevent drying out from sun or wind. This is dipping roots in a molasses-like mixture of water and loamy soil.

Cut off bruised or broken roots smoothly.

Set plants about same depth as they stood in nursery. In lighter soil plant a little deeper.

Pack good soil firmly about roots. Wet the soil, if needed, when hole is partly filled. Then shortly after, unless ground is moist, shrubs should be watered, but in heavy soils too much water will injure the plants.

Leave soil level with surface of ground, except a ring of dirt may be left to form a basin for watering.

## Pruning Shrubs at Planting

Any bruised or broken roots should be pruned with a sharp knife or pruning shears. Extra long roots should be cut back rather than bend them to get the plant into the hole.

When shrubs are dug, some of the roots are lost. Part of the tops must be removed after transplanting to restore the balance between the roots and the top.

Better shaped and more attractive shrubs will result with the following varieties, Group 1, if all the tops are cut back to within 4 to 6 inches from the ground. This postpones blossoming for one season but that is more than made up by the beauty of form and foliage.

### Group No. 1

Abelia Grandiflora (Bare-rooted), Beautyberry, Beauty Bush, Butterfly Bush, Coralberry, Crapemyrtle (Bare-rooted), Desmodium Penduliflorum, Deutzia Gracilis, Redtwigged Dogwood, Dwarf Bush Honeysuckle, Dwarf Butterfly Bush, False Spirea, Globe Flower (Kerria), Hydrangea A. G., Hydrangea P. G. (Bush form), Hypericum, Golden Mock Orange, Pearl Bush, Hugonis Rose, Rugosa Roses, F. J. Grootendorst Rose, Sir Thomas Lipton Rose, Shubby Cinquefoil, Snowberry, Crimson Spirea, Billard's Spirea, Dwarf White Spirea, Froebel's Spirea, Fragrant Sumac, Tamarisk Africana, Tamarisk Hispanica.

HEDGES—California Privet, Amur River Privet, Spirea Van Houttei.

When large sizes are used which have plenty of canes it is possible to restore the balance between roots and tops by cutting out several canes at the ground, removing preferably any that are weak or do not help the looks of the shrub. This applies to varieties in Group 2.

### Group No. 2

Althea (Rose of Sharon), Arrowwood, Common Nine Bark, Cutleaf Stephanandra, Deutzia Lemoinei, Deutzia Pride of Rochester, Golden Elder, Border Golden Bell, Weeping Golden Bell, Fortunes Golden Bell, Greenstem Golden Bell, Gold Leaf Nine Bark, Everblooming Honeysuckle, Japan Bush Honeysuckle, Tatarian Honeysuckle, Fragrant Honeysuckle, Persian Lilac, Japan Quince, Jetbead (White Kerria), Sweet Mock Orange, Lemoines Mock Orange, Virginialis Mock Orange, White Boquet Mock Orange, Double Flowering Plum, Thunberg's Spirea, Bridal Wreath Spirea, Van Houtte's Spirea, Silver Bell, Sweet Pepper Bush, Weigela Eva Rathke and Rosea, White Fringe, Winged Euonymus, Winterberry, Witch Hazel.

HEDGES—Japanese Barberry.

The following Group No. 3 require no pruning except to remove injured canes or to improve the shape by cutting off branches that are too long.

### Group No. 3

Abelia Grandiflora (Balled), Double Flowering Almond, Japanese Barberry, Red Leaved Barberry, Cotoneaster Francheti (Balled), Hercules Club, Hydrangea P. G. (Tree form), Budded French Lilac, Chinese Lilac, Common Purple Lilac, Purple Leaved Plum, Snowball, High Bush Cranberry, Staghorn Sumac, Smooth Sumac.

## After Care of Shrubs

Keep surface soil loose and moist and at even temperature by a 3 to 4 inch mulch of manure or by keeping a dust mulch by repeated cultivations. During a drought, water thoroughly even though mulch is applied.



# Select the Right Shrubs for Your Grounds

Season of bloom is for Southwest Missouri and varies from year to year.

\*Indicates endures partial shade. U—Indicates upright habit of growth.

## Shrubs for Foundation Planting

### Tall Growing Shrubs

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
*Arrowwood (Viburnum Dentatum)	4-5 ft.	8-12 ft. U.	White	May	Blue-Black berries, Red foliage in fall.
*High Bush Cranberry (Viburnum Opulus)	4-5 ft.	8-12 ft.	White	May	Red berries and foliage in fall.
*Japan Bush Honeysuckle (Lonicera Morowii)	4-5 ft.	6-8 ft.	White	April	Red berries in fall.
Lilac, Common Purple (Syringa Vulgaris)	4-5 ft.	8-12 ft. U.	Purple	April	
*Mock Orange (Philadelphus Coronarius)	4-5 ft.	8-12 ft.	White	May	
*Privet, Ibota (Ligustrum Ibota)	3-4 ft.	6-10 ft.	White	May	Purplish foliage and Blue-Black berries in fall.
Weigela, Pink (Weigela, Rosea)	4-5 ft.	6-8 ft.	Pink	May	

### Medium Growing Shrubs

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
Beautybush (Kolkwitzia amabilis)	3-4 ft.	6 ft.	Pink	Early June	Very attractive form and foliage.
Crape myrtle (Lagerstroemia Indica)	4-5 ft.	10-25 ft.	Red, Purple, Pink or White	June-Aug.	
Golden Bell, Border (Forsythia Intermedia)	4-5 ft.	6-8 ft.	Yellow	March	Earliest blooming.
Golden Bell, Fortunes (Forsythia Fortunei)	4-5 ft.	6-8 ft.	Yellow	March	Most upright variety.
Golden Bell, Greenstem (Forsythia Viridissima)	4-5 ft.	6-8 ft.	Yellow	March	Holds leaves late in fall.
*Honeysuckle, Tatarian (Lonicera Tatarica Rosea)	4-5 ft.	6-8 ft. U.	Pink	April	Red berries in fall.
*Honeysuckle, Fragrant (Lonicera Fragrantissima)	4-5 ft.	6-8 ft.	Pinkish White	April	Holds foliage late in fall.
Hydrangea P. G. (Hydrangea Paniculata Grandiflora)	3-4 ft.	6-8 ft.	White	July to October	Blossoms turn to Pink then to Bronze.
Persian Lilac (Syringa Persica)	3-4 ft.	6-8 ft. U.	Purple	Late April	
*Rosa Rugosa, Sir Thomas Lipton	2-3 ft.	5-6 ft.	White	All Season	
Spirea, False (Sorbaria Sorbifolia)	2-3 ft.	4-6 ft.	White	June-July	
Spirea Prunifolia (Spirea Bridalwreath)	3-4 ft.	6-8 ft.	White	April	Orange foliage in fall.
Spirea Van Houttei (Spirea Van Houttei)	3-4 ft.	6-8 ft.	White	May	The most popular shrub, often called Bridal wreath.

*Mock Orange, Lemnoides (Philadelphus Lemnoides)	3-4 ft.	6-8 ft. U.	Yellowish White	May	Fragrant blossoms.
*Mock Orange, Virginal (Philadelphus Virginalis)	3-4 ft.	6-8 ft. U.	White	May	Most fragrant.
Weigela, Crimson (Weigela Eva Rathke)	3-4 ft.	4-5 ft.	Crimson	May	More spreading than Rosea.
Winterberry (Ilex Verticillata)	3-4 ft.	6-8 ft.	Red Berries	Winter	

### Low Growing Shrubs

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
*Barberry, Japanese (Berberis Thunbergii)	2-3 ft.	2-3 ft.	Yellow Insignificant	April	Red berries and foliage in fall.
*Coralberry (Symphoricarpos Vulgaris)	2-3 ft.	3-5 ft.	Insignificant		Red berries in fall.
Cotoneaster Franchetii	2-3 ft.	5-6 ft.	Evergreen		Orange berries.
*Deutzia Lemoinei (Deutzia Lemoinei)	2-3 ft.	3-4 ft.	White	May	
Desmodium Penduliflorum (Purple Bush Clover) (Lespedeza Formosa)	2-3 ft.	3-5 ft.	Rose Purple	Sept	Tops die in winter, but new growth this spring.
Globe Flower (Kerria Japonica)	2-3 ft.	3-5 ft.	Yellow	May-June	Bright green foliage and bark.
*Hydrangea Hills of Snow (Hydrangea Arborescens Grandiflora)	2-3 ft.	3-5 ft.	White	June-Sept.	Prune back in early spring.
*Hypericum Aureum	1-2 ft.	2-4 ft.	Yellow	July-Aug.	Blue-Green foliage.
Japan Quince (Fire Bush) (Cydonia Japonica)	2-3 ft.	4-5 ft.	Scarlet	April	Dark green glossy foliage.
*Mock Orange, Golden (Philadelphus Cor. Aureus)	1-2 ft.	2-3 ft.	Flowers rarely		Golden foliage.
*Privet, Regels (Ligustrum Regelianum)	2-3 ft.	4-6 ft.	White	May	Blue-Black berries in fall.
*Rugosa, Rose, Red (Rosa Rugosa Rubra)	2-2 1/2 ft.	3-5 ft.	Red	May	Dark green lustrous foliage.
Rugosa Rose, White (Rosa Rugosa Alba)	2-2 1/2 ft.	3-5 ft.	White	May	Flowers are followed by red seed pods.
Rosa Rugosa, Grootendorst	2-2 1/2 ft.	3-5 ft.	Crimson or Pink	All season	
*Snowberry (Symphoricarpos Racemosus)	2-3 ft.	3-5 ft.	White	June	White berries following inconspicuous flowers hang on into winter.
Spirea, Thunberg's (Spirea Thunbergii)	2-3 ft.	3-5 ft.	White	April	Feathery light green leaves turning to orange or scarlet in fall.

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
Spirea, Froebel's (Spirea Froebeli)	1-2 ft.	2-3 ft.	Rose-Pink	All summer	Taller than Waterer and leaves broader
Spirea, Dwarf White (Spirea Callosa Alba)	1-2 ft.	2-3 ft.	White	All summer	
Stephanandra Cutleaf	2-3 ft.	5-6 ft.	White	May	Leaves reddish purple in fall.
*Sumac, Fragrant (Rhus Canadensis Aromatica)	2-3 ft.	3-5 ft.	Greenish White	April	Scarlet seed and red foliage in fall.
*White Kerria or Jetbead (Rhodotypos Kerroides)	3-4 ft.	3-5 ft.	White	April	Black berries in fall, Yellowish green foliage.

### Dwarf Shrubs

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
*Aheila, Glossy (Abelia Grandiflora)	2-3 ft.	2-4 ft.	White tinged with Pink	July-Sept.	Evergreen in South.
Barberry, Red Leaved	1-2 ft.	2-4 ft.	Red leaves	All season	
Beautyberry (Callicarpa Purpurea)	2 ft.	2-4 ft.	Violet berries	August	
Cinquefoil, Shrubby (Potentilla Fruticosa)	1-2 ft.	2-4 ft.	Yellow	All summer	
*Deutzia, Slender (Deutzia Gracilis)	1-2 ft.	2-3 ft.	White	April	
*Deutzia, Pink (Deutzia Gracilis Rosea)	1-2 ft.	2-3 ft.	Pink	April	
Spirea Waterer (Spirea Anthony Waterer)	1-2 ft.	2-3 ft.	Rose-Pink	All summer	Flat shaped flowers.
Summer Sweet (Clethra alnifolia)	2 ft.	3-5 ft.	White	July-Sept.	

## Shrubs for Border Planting

(Also all Shrubs in Foundation Planting List.)

Variety	Planting Distance	Mature Height	Color Bloom	Season Bloom	Remarks
Almond, Dbl. Flowering (Amygdalus Rosea)	2-3 ft.	5-6 ft.	Pink	April	
Althea (Rose of Sharon) (Hibiscus Syriacus)	3-4 ft.	8-12 ft. U.	Pink, Red, White or Purple	July-Sept.	Very slow to start growth in spring.
Butterfly Bush (Summer Lilac) (Buddleia)	2-3 ft.	4-6 ft.	Lilac	June-Aug.	Tops usually die in winter, but new growth is ample.
Butterfly Bush, Dwarf (Buddleia Farquhar)	2 ft.	4-5 ft.	Lilac	June-Sept.	
*Carolina All Spice (Calycanthus Floridus)	2-3 ft.	4-5 ft.	Chocolate Brown	June	Blossoms are sweet scented.
Deutzia, Pride of Rochester (Deutzia Scabra)	3-4 ft.	6-8 ft. U.	White	May	
Dogwood, Red Twigged (Cornus Alba Siberica)	3-4 ft.	6-8 ft.	Bright red bark		Useful for winter effects.
Euonymus, Winged (Euonymus Alatus)	4-5 ft.	8-10 ft.	Crimson leaves	Fall	
Flowering Crab (Malus)	5-10 ft.	10-25 ft.	Pink, Red	April or May	
Flowering Plum (Prunus Triloba)	3-4 ft.	6-8 ft.	Double Pink	March	Blooms before leaves appear.
Golden Bell, Weeping (Forsythia Suspensa)	2-3 ft.	4-6 ft.	Yellow	March	Slender drooping branches fine for banks.
Golden Elder (Sambucus Canadensis Aurea)	4-5 ft.	8-12 ft.	White	June	Valuable for golden foliage.
Golden Rose of China (Rose Hugonis)	2-3 ft.	3-6 ft.	Yellow	April	Foliage turns to purple in fall
Honeysuckle, Ever-blooming (Lonicera Heckrottii)	6-8 ft.	15-20 ft.	Purple and Yellow		
Ninebark, Common (Physocarpus opulifolius)	4-5 ft.	8-10 ft.	White	May	
Ninebark, Goldleaf (Physocarpus opulifolius aurea)	4-5 ft.	8-10 ft.	White (Golden leaves)	May	
Peach, Purple Leaf (Prunus Persica Atropurpurea)	6-10 ft.	12-20 ft.	Purplish foliage		
Pearl Bush (Exochorda grandiflora)	4-5 ft.	6-10 ft.	White	May	
Plum Hansens (Prunus Cistena)	3-4 ft.	6-8 ft.	Purplish-Red foliage		
Purple Leaved Plum (Prunus Pissardi)	4-5 ft.	10-12 ft.	White	April	Valuable for purple foliage.
*Red Bud (Judas Tree) (Cercis Canadensis)	5-6 ft.	12-15 ft.	Pink	March	Flowers before leaves appear.
Silverbell (Halesia Tetraptera)	5-6 ft.	12-15 ft.	White	May	
Snowball (Viburnum Opulus Sterile)	4-5 ft.	8-12 ft.	White	April	An old favorite.
*Sumac, Smooth (Rhus Glabra)	4-5 ft.	8-12 ft.	Greenish White	April	Scarlet seed, red foliage in fall.
Tamarisk (Tamarix Africana)	3-4 ft.	8-12 ft.	Pink	June	
Tamarisk, Hispid (Crataegus oxyantha Pauli)	5-7 ft.	12-15 ft.	Crimson	Early Spring	
White Fringe (Chionanthus Virginiana)	6-10 ft.	15-25 ft.	White	May	Bluish-black berries.
Willow, Pussy (Salix Discolor)	6-10 ft.	15-20 ft.	Catkins	Early Spring	
Witch-Hazel (Hamamelis Virginiana)	5-6 ft.	10-15 ft.	Yellow	Oct.-Nov.	



# Neosho Shrubs Have Good Roots and Branches



Honey-suckle, Bush (*Lonicera Morrowi*).

**ABELIA GRANDIFLORA**—A very pretty shrub of unusual value. Mature height 2 to 4 feet. Blooms profusely from July to September. Leaves glossy green, turning coppery red in the fall; flowers tube-like, about an inch long, white blushed with pink; fragrant. Holds its foliage all winter as far north as Tulsa. Deciduous farther north but hardy as far north as Kansas City.

**ALMOND, FLOWERING** (*Amygdalus*)—Grows 3 to 6 feet tall. In late April the branches are covered with beautiful double, pink flowers before the leaves appear.

**ALTHEA OR ROSE OF SHARON** (*Hibiscus Syriacus*)—These popular shrubs have a compact, upright growth, attaining a height of 8 to 12 feet. Abundant flowers in white, pink or red, according to variety, appear in July to September when few other shrubs are in blossom. Valued as specimens, in shrub masses, as screens and for hedges, trimmed or untrimmed. They start growth slowly after transplanting, sometimes showing no signs of life for 30 days.

**ARROWWOOD** (*Viburnum Dentatum*)—Attractive green leaves, turning red in fall; white flowers in May, followed by small black berries. Endures shade, dry or moist soil and grows 8 to 12 feet.

**BARBERRY JAPANESE** (*Berberis Thunbergii*)—One of the most valuable all-purpose shrubs, will grow in almost any soil, in sun or shade, dense growing; 3 to 5 feet; perfectly hardy. The leaves are small, green in early spring and summer, scarlet in fall into winter. The twigs are thorny and covered with scarlet berries in fall and winter. Its yellow flowers are inconspicuous. One of the best shrubs to plant against foundation of house or porch, in front of taller shrubs and the best low hedge.

**BARBERRY, RED-LEAVED**—Foliage reddish bronze in spring, brilliant red in summer. Plant in sun.

**BEAUTY BERRY** (*Callicarpa purpurea*)—Valued for dense foliage, pink flowers in midsummer and especially for bunches of light violet berries. Grows 2 to 4 feet. Tops are sometimes winter killed but the young shoots grow quickly and bear flowers and fruit the same season.

**BEAUTY BUSH** (*Kolkwitzia amabilis*)—A new introduction from China. A very attractive bush about 6 feet tall, upright in the center with outer branches gracefully arching. Pink flowers are borne profusely in early June after several years. Very hardy.

**BUSH CLOVER** (*Desmodium Penduliflorum*)—Valuable for great profusion of pea-shaped, rose-purple flowers in September to late October. Grows 2 to 3 feet; tops die down in winter. Useful in shrub masses or borders.

**CORALBERRY or INDIAN CURRANT** (*Symphoricarpos Vulgaris*)—This shrub grows 4 to 5 feet, has good foliage till late in fall; graceful, arching branches studded with small clusters of dark red berries that remain all winter. The small green flowers in August are inconspicuous. Endures shade and dry soil. Excellent for banks to prevent erosion.

**COTONEASTER FRANCHETTI**—An upright, densely branched evergreen shrub, 5 to 6 feet, with spreading branches, small pinkish flowers in June followed by orange-red fruit.

**DOGWOOD, SIBERIAN** (*Cornus Alba Siberica*)—Valued especially for coral-red stems. Some of older stems should be cut out each spring to encourage new growth that shows color best. It has white flowers in May and white berries into winter. It is fast growing, 6 to 8 feet, and is used for screen effects. Endures partial shade. Other varieties have grey, green and yellow bark or twigs.



Deutzia, Lemoinci. One of the Best Low Shrubs.

**BUTTERFLY BUSH** (*Buddleia Magnifica*)—This shrub, 3 to 6 feet, is valued for its dark blue "lilac" flowers borne in long spikes in late July and August. It is usually cut back to the ground in late winter, and makes a quick, bushy growth.

**BUTTERFLY BUSH DWARF** (*Buddleia Farquhar*)—Grows about 3 feet tall and bears lilac-purple flowers from June till frost. Usually cut to the ground in late winter.

**CINQUEFOIL, SHRUBBY** (*Potentilla fruticosa*)—The bright yellow flowers are attractive from summer till frost. Grows 2 to 4 feet, upright and thrives in moist places. Leaves are gray-green and narrow.

## DEUTZIA

These well-known shrubs bloom profusely in spring or early summer, have good foliage and are very useful in groups, in mass plantings, and the dwarf varieties for foundation plantings.

**Deutzia Gracilis**—A dense upright grower 2 to 3 feet with abundant white flowers in April or early May. Very hardy, endures partial shade.

**Deutzia Lemoinci**—Hardy spreading grower 3 to 6 feet with showier later white flowers than Gracilis. Endures partial shade.

**Deutzia, Pride of Rochester**—A fast upright grower 6 to 8 feet. Double flowers. pink in bud, white when fully opened.



Here is an Effective Shrub Planting Binding the House to the Lawn, Softening Angles and Hiding the Low Foundation.



# See Shrubs in Colors Following Page 20

**EUONYMUS, WINGED (Euonymus Alatus)**—An 8 to 10 ft. shrub with corky winged branches; especially valued for bright red foliage in the fall and also has red berries.

## **GOLDEN BELLS (Forsythia)**

These highly ornamental shrubs have showy yellow flowers in great profusion in early spring before the leaves appear. Their handsome dark green foliage remains unchanged until late in the fall. The upright forms are well suited for border plantings and the drooping forms for covering walls, fences and arbors.

**Border (F. Intermedia)**—Upright, growing 6-8 ft. Earliest to bloom.

**Fortunes (F. Fortunei)**—The most upright and tallest grower, 7 to 10 ft.

**Greenstem (F. Viridissima)**—Upright growing, 6 to 8 ft., with olive-green leaves. Not as hardy as other varieties.

**Weeping (F. Suspensa)**—Slender, drooping branches adapted for trailing on banks or walls or over a trellis.

**GOLDEN ELDER (Sambucus Canadensis Aurea)**—Valuable for golden foliage throughout the summer. Grows 8 to 12 ft.

**HIGH-BUSH CRANBERRY, AMERICAN (Viburnum Opulus Oxycoccos)**—Valuable for good foliage and red berries in fall. Bush is open, graceful, spreading, 8 to 12 ft. tall. White flowers in flat clusters in May. Endures shade.

## **HONEYSUCKLE (Lonicera)**

The Bush Honeysuckles are hardy, fast growing, have fine foliage and are useful in mass plantings. They endure partial shade.

**Honeysuckle Dwarf Bush (Diervilla trifida)**—A low growing shrub, 2 to 3 ft., with yellow flowers in June.

**Honeysuckle, Everblooming (Lonicera Heckrotti)**—A half trailing bushy vine with flowers purple-rose outside, yellow inside, from July to autumn. A bush form can be secured by pruning.

**Morrows (L. Morrowi)**—Its early white flowers are not showy but are followed by attractive red berries that hang on into winter. Grows 6 to 8 ft. tall; broad and spreading.

**Pink Tatarian (L. Tatarica Rosea)**—Attractive pink flowers are followed by bright red berries. Taller growing and more upright than Morrowi.

There are also white flowering (alba) and red flowering (rubra).

**Fragrant (L. Fragrantissima)**—Its pinkish-white flowers appear early in the spring, are not showy but are fragrant. Its red berries and dark green leaves hang on into winter.

**HUGONIS ROSE, a Chinese Briar ("The Golden Rose of China")**, is a very attractive shrub valuable as specimens and with other shrubs. Mature height up to 6 ft. and the same in width. Quite hardy. In late April the slender branches of previous season's growth are covered with clear yellow, single flowers. The abundant new growth from the roots is reddish-maroon and the foliage turns to purple in the fall.

**KERRIA JAPONICA** often called **Globe Flower** or **Japanese Rose (Corchorus Japonicus)**—Valuable for beautiful yellow flowers in May, for bright green foliage in summer and slender green of twigs in winter. Grows 4 to 5 ft.

## **HYDRANGEA**

These deservedly popular hardy shrubs with showy white blossoms and long blooming season are used in groups, in masses with other shrubs and as specimens. Prune in late winter or early spring, severely for large flowers, lightly for greater quantity of smaller blossoms.

**Hills of Snow (H. Arborescens Grandiflora)**—Grows 4 to 6 ft. tall, and endures partial shade. Dense balls of small white flowers in June and July.

**Peegee (H. Paniculata Grandiflora)**—Grows 6 to 8 ft. large panicles of white flowers July to September, changing to pink and bronze after frost. Grown in bush and also tree form.



Virginial Mock Orange.

**HYPERICUM, GOLDEN ST. JOHNS-WORT (Hypericum Aureum)**—A stiff, dense shrub 2 to 3 ft., with bright yellow flowers in July and early August. Globe shaped top and grey-green leaves. Endures partial shade.

## **LILAC (Syringa)**

The Lilacs are valuable for fragrant flowers and rich green foliage, used in groups, in masses and for hedges, require sunny location.

**Common Purple (S. Vulgaris)**—This old-fashioned shrub is still a favorite with its fine foliage and fragrant flowers in the early spring, 8 to 15 ft. tall. The variety S. Vulgaris Alba has white flowers.

**Hybrid or French Lilacs**—These are budded named varieties having smaller leaves, larger blossoms and bloom later and younger than Common (Vulgaris) Lilacs and grow 6 to 8 ft. tall. They are available in blue, purple, white and pink.

**Persian Lilacs (S. Persica)**—Have slender branches, narrow leaves and grow 6 to 10 ft. tall. Fragrant pale lilac flowers. There is also a white variety.

**Lilac, Chinese (S. Chinensis Rothomagensis)**—Very free flowering shrub, reddish-purple in May with arching branches, grows 8 to 10 ft.

**PEARL BUSH (Exochorda Grandiflora)**—Myriads of pearl-like buds open into

fragrant white, starry flowers in May. Grows 6 to 10 ft.

## **MOCK ORANGE (Philadelphus)**

These attractive shrubs are justly popular for attractive foliage and creamy white fragrant blossoms. They are valuable as specimens, for screens and in shrub groups. Sometimes incorrectly called Syringa.

**Sweet Mock Orange (Philadelphus Coronarius)**—This is the well-known Mock Orange with fragrant white flowers in May. Grows 8 to 12 ft., endures partial shade. Used for hedges in shady places.

**Golden Mock Orange (P. C. Aureus)**—Valuable for showy golden foliage and dwarf habit, grows 3 to 5 ft. Used for edging walks and for garden borders.

**Lemoines Mock Orange (P. C. Lemoinei)**—More graceful, lower growing, 6 to 8 ft., and smaller leaves than Sweet or Common Mock Orange. White flowers in June are very fragrant.

**Virginal Mock Orange (P. Virginialis)**—A new variety with large white flowers, very fragrant, in bloom over a longer period than other sorts. The growth is compact, 6 to 8 ft. tall.

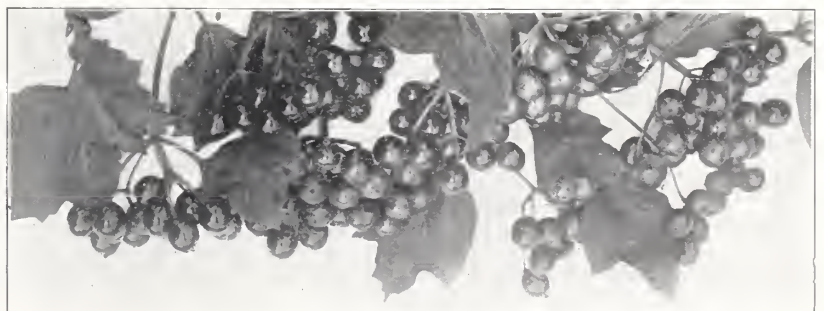
**White Bouquet (P. Mont Blanc)**—A low growing shrub about 4 ft. tall with small leaves and profuse white flowers in May.

**NINEBARK, Common (Physocarpus Opulifolius)**—A quick growing shrub 8 to 10 ft. with fragrant white flowers in late May.

**NINEBARK, Goldleaf (P. O. Aurea)**—Showy yellow leaves, turning to bronze in summer and fall. Grows 8 to 10 ft. White flowers in May.



Globe Flower (Kerria Japonica). We offer the double blossom variety.



High Bush Cranberry. Holds Beautiful Red Berries Into Winter.



# Attractive Plantings Increase Property Values



An Attractive Corner—Inviting for Rest or Play.

**PLUM, FLOWERING (Prunus Triloba)**—Valued for its wealth of double pink flowers on slender branches in late April or early May.

**PLUM, Purple Leaf (Prunus Pissardi)**—Valued for purplish foliage. Prune every year for best color effect. Grows 10 to 15 ft.

**RUGOSA ROSES (Rosa Rugosa)**  
Are exceptionally hardy, healthy and thrive under most difficult conditions of soil and climate. The branches are spiny and the leaves are shiny dark green, curiously wrinkled and not susceptible to attacks by insects, endure dry soil and partial shade. The flowers come in May and are followed by red or orange-scarlet fruits which hang on into winter. Useful in groups or with other shrubs or for low unsheared hedges.

**Rosa Rugosa Alba**—Has large, clear white flowers. Mature height 3 to 5 ft.

**Rosa Rugosa Rubra**—Has large rosy-crimson flowers. Mature height 3 to 5 ft.

**F. J. Grootendorst**—Red. Blooms spring on until frost. 3 to 5 ft. There is also a pink flowering Grootendorst.

**Sir Thomas Lipton**—The best double white blooming in June and occasionally all summer. Grows 4 to 6 ft.

**SILVER BELL (Halesia Tetraptera)**—Valued for snow-white bell-shaped flowers in May, followed by brown-winged fruits. Grows 12 to 15 ft.

## PRIVETS (Ligustrum)

**Regels Privet (Ligustrum Iboia Regelianum)**—This shrub is useful for border planting and low-sheared edgings for walks and for garden borders, and to fill in with other shrubs which are more showy in flower or fruit. It has white flowers and blue-black berries.

Other Varieties, see page 14, under Hedges.

**QUINCE, JAPAN (Cydonia Japonica)**—Attractive for scarlet-crimson flowers in April, and glossy green foliage which hangs on well into fall. Used as specimens and for hedges. 4 to 6 ft.

**SNOWBALL (Viburnum Opulus Sterile)**—An old-time favorite with showy white flowers in large globular clusters in May or June; grows 8 to 12 ft.

**SNOWBERRY (Symphoricarpos Race-mosus)**—Valuable for good foliage and for white berries into winter. Flowers white in July are inconspicuous. Endures partial shade; grows 3 to 6 ft. Used for border plantings, for low, unsheared hedge and on banks to prevent erosion.

**STEPHANANDRA CUTLEAF (Stephanandra Flexuosa)**—A graceful compact shrub 5 to 6 ft. with feathery fern-like foliage, green in summer, bronze-red in fall. Cream colored flowers in June.

## SUMAC

**Sumac, Fragrant (Rhus Canadensis Aromatic)**—This low-spreading shrub, about 3 ft. high, is valuable for good foliage turning to red in autumn, and for attractive red berries. Adapted to dry, rocky banks. Used also in border plantings. Leaves are fragrant when crushed.

**Sumac, Smooth (Rhus Glabra)**—Attractive fern-like foliage, with red leaves and fruit in fall. Grows 8 to 12 ft. Adapted for banks and rocky slopes, and one of the best Sumacs for mass plantings.

**Sumac, Staghorn (Rhus Typhina)**—Valued for brilliant scarlet leaves in fall and its panicles of deep red fruits which hang on into winter. Useful in mass plantings on barren ground and dry hillsides. Grows 15 to 30 ft.

**SUMMER SWEET or SWEET PEPPER BUSH (Clethra Alnifolia)**—Valued for showy spikes of fragrant white flowers in late summer. Grows 3 to 5 ft.

**SWEET SCENTED SHRUB or CAROLINA ALLSPICE (Calycanthus Floridus)**—Cultivated chiefly for the spicy fragrance of its chocolate-red flowers in June. Grows 3 to 5 ft.

**TAMARISK, AFRICAN (Tamarix Africana)**—A graceful shrub or small tree, 8 to 12 ft., with feathery foliage and light pink flowers in May.

**TAMARIX HISPIDA**—Panicles of pink flowers appear in August and into September. A very graceful shrub with fine bluish-green leaves, endures dry soil, excellent for seaside planting. Grows 8 to 12 ft.

## SPIREA (Spiraea)

This is a large family of valuable shrubs varying in size, in habits of growth, and in color and season of bloom. A fertile soil and sunny exposure produce their best development.

**Billards Spirea (S. Billardi)**—Upright grower, 6 to 8 ft., with pink flowers in spikes in midsummer.

**Bridal Wreath (S. Prunifolia)**—Often confused with Van Houttei's Spirea. A graceful shrub with white flowers in great profusion in April. The foliage is bright green turning orange-red in the fall. Grows 6 to 8 ft. The variety "Flore Pleno" has double flowers.

**Crimson Spirea (S. Bumalda Anthony Waterer)**—Flowers nearly all summer, bright red in flat clusters, narrow leaves, upright grower, 1 to 2 ft. Often used for edging walks and for garden borders.

**Dwarf White Spirea (S. Callosa Alba)**—The white flowers in flat clusters are borne nearly all summer. Grows 2 to 3 ft. Often used for edging walks and for garden borders.

**Dwarf Pink Spirea (S. Bumalda)**—A spreading bush 2 to 3 ft. tall with dark leaves and bright pink flowers in May and at intervals all summer.

**Froebel's Spirea (S. Frobeli)**—Is one of the finest Spireas, similar to Anthony Waterer but somewhat taller and with broader leaves. Nearly all summer it is covered with bright crimson flowers and the leaves turn purple in fall.

**Thunberg's Spirea (S. Thunbergi)**—Sometimes called Snow Garland—A spreading grower, 3 to 6 ft., with feathery light-green leaves and white blossoms in profusion in April. Foliage turns to orange-scarlet in fall.

**Van Houttei's Spirea (S. Van Houttei)**—The most popular shrub. It is valuable as specimens, in groups, in border plantings, and for hedges. The branches are slender, drooping, covered with white flowers in April or early May, and the leaves are small and light green. It grows 6 to 8 ft. and is unsurpassed in gracefulness and beauty. Wrongly called "Bridal Wreath."

**Spirea, False (Sorbaria Sorbifolia)**—Handsome upright shrubs, 3 to 5 ft., with bright green pinnate leaves and panicles of showy white flowers in June or July.

**WEIGELA, EVA RATHKE**—Large trumpet-shaped crimson flowers in May and June. Bush is upright, but more spreading with age, grows 4 to 5 ft. tall. Very effective in groups and borders.

**WEIGELA ROSEA**—Abundant, showy flowers vary from white to deep rose pink in May or June. Grows 6-8 ft. Very effective in groups or in mass or border plantings.

**WHITE KERRIA or JETBEAD (Rhodotyus Kerroides)**—Valuable for bright green foliage and white flowers in May and black seeds which hang on all winter. Endures shade; grows 3 to 5 ft. tall; hardy.

**WINTERBERRY—BLACK ALDER (Ilex Verticillata)**—This shrub enjoys moist soil and grows 6 to 8 ft. Is valued chiefly for bright red fruits from October into winter.

**WITCH HAZEL (Hamamelis Virginiana)**—A large spreading shrub with yellow flowers in late autumn and foliage turns to bright yellow, orange and purple.



Snowball



Weigela Rosea



Rosa Rugosa—Alba



# Climbing Vines for Porches, Arbors or Walls



**Hall's Honeysuckle**  
Holds its foliage into winter.

Vines add greatly to the beauty, grace and comfort of the home. They are invaluable for toning stiff angles of buildings, to provide shade and flowers over veranda or trellises, to prevent washing on steep slopes and banks, and to cover unsightly objects.

If planted next to walls, dig the soil out for 18 to 24 inches and fill in with good dirt. In such locations they are likely to need watering and fertilizing with bone-meal or well-rotted manure.

Climbing vines are pruned after blooming to remove dead wood and straggling growth, except that vines with ornamental fruit like Virginia Creeper, etc., are cut back severely in the spring.

*"Better plants than I was looking for. Am sending you a duplicate order. I will always recommend you; 'tis the easiest way I can do two people a favor at once."*—Theo Green, Illinois.



**Japanese Clematis**

**BITTER SWEET, AMERICAN** (*Celastrus Scandens*)—This hardy vine has handsome, glossy foliage and large clusters of orange-crimson fruits which hang on all winter, used for winter decorations.

**BOSTON IVY** (*Ampelopsis Tricuspidata Veitchi*)—Bright attractive foliage turning to crimson in the fall; clings firmly even to smooth surfaces; hardy.

**ENGLISH IVY** (*Hedera Helix*)—Has attractive evergreen leaves, waxy, dark green. Clings to walls or trees. Not hardy north. Does best on north or east side of house.

**CLEMATIS, JAPANESE** (*C. Paniculata*)—Bright foliage with countless little star-shaped white flowers, very fragrant;

blooms in August and September. Support on trellis; grows to fifteen feet.

**CLEMATIS, JACKMANI**—Violet-purple blooms in July and August. Available also in red or blue.

**FLEECEVINE, CHINESE** (*Polygonum Auberti*)—Very strong rapid growing vine covered in late summer and fall with snowy white flowers.

**HONEYSUCKLE, HALL'S** (*Lonicera Japonica Halliana*)—Shiny green foliage; pure white, trumpet shaped flowers with sweet perfume; used to cover fences, embankments, arbors, etc. Blooms in late fall. Hardy. Thrives in heavy soil. Endures shade.

**HONEYSUCKLE, SCARLET TRUMPET** (*Lonicera Sempervirens*)—Orange-scarlet flowers 1½ to 2 inches long in summer.

**TRUMPET FLOWER** (*Bignonia Radicans*)—Long, trumpet-shaped orange-scarlet flowers, beautiful light green foliage. Especially good for covering walls, fences and embankments. Blooms in July and August.

**VIRGINIA CREEPER** (*American Ivy*) (*Ampelopsis Quinquifolia*)—Beautiful, large five-lobed leaves turning brilliant crimson in fall, contrasting handsomely with its blue berries.

**WISTERIA, JAPANESE**—Beautiful foliage, long clusters of pear-shaped, purple flowers; makes a heavy vine; grows very tall.



**An Irresistible Outdoor Living Room—Attractive, Comfortable, Altogether Charming**



# Plant Trees for Wealth of Flowers and Fruits

## Small Ornamental Trees



Water, Trees, Shrubs and Grass Properly Combined, Make This Beautiful Spot

A 7 ft. Chinese Elm in Neosho planted in 1926 now (December, 1930) measures 8 inches in diameter a foot above the ground.

In Massachusetts a Chinese Elm 19 years from seed is 15 inches in diameter and over 35 ft. tall.

**ASH, MOUNTAIN, EUROPEAN** (*Sorbus Aucuparia*)—Hardy tree 20 to 40 ft. tall, not particular as to soil, well suited to rocky hillsides. Handsome foliage turning to orange-red in fall. White flowers in May are followed by red fruits which hang on all winter.

**DOGWOOD, RED FLOWERING** (*Cornus Florida Rubra*)—15-20 ft. Bright pink flowers. Difficult to transplant unless balled and burlapped. The white flowering is *Cornus Florida*.

### FLOWERING CRAB (MALUS)

These rounded compact trees are used in lawn groups and high shrub borders for their handsome foliage, their profuse early bloom and their ornamental fruits.

**Bechtels** (*Malus Ioensis*)—10-15 ft. Double pink flowers, like small roses. Fragrant, in May.

**Floribunda** (*Malus Floribunda*)—12-15 ft. Single deep rose-pink flowers, early May. Fruit yellow and red.

**Hopa** (*Malus Hopa*)—15-25 ft. Rose colored flowers in April, red fruits. Very hardy.

**Parkman** (*Malus Parkmani*)—10-15 ft. Double clear pink flowers, April or May. Dark green leaves.

**Redvein** (*Malus Niedzwetzkyana*)—15 to 25 ft. Large red flowers, semi-double, in April. Purplish-red fruit and foliage.

**HERCULES CLUB or DEVIL'S WALKING STICK** (*Aralia Spinosa*)—18-20 ft. Erect growing with spiny stems and white flowers. Presents a tropical effect.

**MAGNOLIA, SWEET BAY** (*Magnolia Glauca*)—15-20 ft. Glossy leaves, nearly Evergreen. Large white cup-shaped flowers in April.

**MULBERRY** (*Morus Alba Pendula*)—Teas' Weeping; hardy, beautiful weeping trees. Grafted on a straight trunk, the branches droop to the ground.

**PEACH, PURPLE LEAF** (*Prunus Persica Atropurpurea*)—10-20 ft. Useful for its purple foliage.

### PLUM

**Plum, Purple-Leaved** (*Prunus Pissardi*)—Valuable for purple foliage. Grows 10 to 12 ft.

**Plum, Double Flowering** (*Prunus Triloba*)—6-10 ft. Double light pink flowers, in April before leaves appear.

**Plum, Hansen's Purple-Leaved** (*Prunus Cistena*)—6-8 ft. Rich purplish-red foliage.

**RED BUD** (*Cercis Canadensis*)—10 to 15 ft. tall, with irregular head, with mass of small pink flowers before the leaves appear. Leaves are large, nearly round, dark green. Endures shade. Used as specimens or in border plantings.

**THORN, Pauls Scarlet** (*Crataegus Oxycantha Pauli*)—12-15 ft. Double crimson-scarlet flowers.

**UMBRELLA CATALPA** (*Catalpa Bignonioides Nana*)—Round-headed tree used for specimens and formal effects. Can be kept compact and symmetrical by late winter pruning.

**WHITE FRINGE** (*Chionanthus Virginica*)—15-25 ft. Has large clusters of feathery white flowers in May, followed by bluish-black berries.

**WILLOW, PUSSY** (*Salix Discolor*)—15 to 20 ft. Usually grown in bush form. Showy catkins appear before leaves.

## Lawns

Good, well-kept lawns are a delight especially if plantings of trees, shrubs and flowers are confined to the margins.

In establishing a lawn the first preparation is all important. Spading or plowing the ground to a depth of at least a foot is essential. After thorough cultivation and grading to the proper levels, the next step is to cover the entire surface with 6 to 12 inches of good top soil. The surface is then thoroughly raked and the seed even-

ly sown, using a pound of seed to 300 square feet. The ground is then raked lightly both ways and thoroughly rolled. A hand roller of 250 to 400 lbs. can be readily handled by two men.

First grade seed is the best investment. Good mixtures are better than a single variety to form a good turf quickly and permanently. Early fall and early spring are the best times to start the lawn or to replenish old lawns. The first cutting should be made when the grass is about three inches high and not too closely. Then if the mowing is done weekly or at short intervals according to the growth, the clippings may be left to protect the roots from the sun. If the grass has grown long they should be raked off. The clippings make a good mulch for perennial beds.

A light mulch of well-rotted manure applied in winter protects the grass and supplies plant food. Nitrate of soda one ounce to two gallons of water applied in early spring will give the grass a good start. Bone meal and wood ashes are excellent and last longer. Fine bone meal about one pound to 100 square feet will give marvelous returns. Hardwood ashes 4 to 5 pounds to 100 square feet are especially good for blue grass lawns.

Sour grass or sorrel and moss are sure indicators of unsatisfactory soil conditions. The easiest remedy is winter dressings of air slacked lime, one bushel to 1000 square feet.

Crab grass is the worst weed enemy. There is only one practical method of control. When this grass begins to spread, pull up the creeping stems with a sharp-toothed rake. Run over the ground with the knives of the mower set low. This cuts off the flower heads and prevents their seeding.



A Beautiful Lawn



Lombardy Poplars in Our Nursery



# Plant Trees for Shelter, Shade and Beauty



Norway Maple

**ASH, GREEN (*Fraxinus Viridis*)** — Shapely, round headed tree with slender, spreading branches; rapid growing; 50 to 60 ft.

**ASH, WHITE (*Fraxinus Americana*)** — Quick growing with broad, spreading limbs. Good for shade or for street planting; grows over 60 ft.

**BIRCH, WHITE, EUROPEAN (*Betula Alba*)**—30-50 ft. Erect growing, slender branches. Old wood is white. Effective as lawn specimen especially in front of Evergreens.

**BIRCH, CUTLEAF WEEPING (*Betula Laciniata Pendula*)** — 30-40 ft. Slender, straight trunk; white bark; graceful drooping branches; delicately cut foliage. Valuable as specimen or in groups. Recovers slowly from transplanting.

**BOX ELDER or ASH LEAVED MAPLE (*Acer Negundo*)**—A rapid-growing spreading tree, 30 to 60 ft., which endures dry soil. Often used for windbreaks.

**CATALPA, WESTERN (*Catalpa Speciosa*)**—Has bright green leaves and beautiful white or yellowish-white fragrant flowers in June. Rapid growing, attaining height of 60 ft. up.

## ELM

**Elm, American (*Ulmus Americana*)** — This is a majestic and graceful tree. Valuable as specimens near house and as street trees; 80 to 100 ft.; yellow fall foliage.

**Elm, Chinese or Siberian (*Ulmus Pumila*)** —A very fast grower, enduring drought and extremes of temperature, very free from diseases and insect injury. Leaves out early in spring and sheds them late in fall. Leaves smaller, branches more slender than American Elm. Hardy.

**Elm, Moline (*Ulmus Moline*)**—60 to 80 ft. Fast growing, more erect and compact than American Elm, large leaves, smooth bark.

**LINDEN, AMERICAN (*Tilia Americana*)** —Basswood or Whitewood. A stately tree with large shining leaves and yellow flowers which attract honey bees. A rapid grower to 60 ft. A good street tree.

## MAPLE

**Maple, Hard or Sugar (*A. Saccharum*)**—Slow growing but long-lived with beautiful foliage turning red and yellow in early autumn. Excellent for shade and lawns, also as street tree under suburban conditions. Grows over 60 ft.

**Maple, Norway (*Acer Platanoides*)** — Handsome, low-headed, compact growing with broad, deep green foliage holding its color late into fall. Valuable for lawns and parks; 30 to 60 ft.

**Maple, Silver or Soft (*Acer Dasycarpum Saccharinum*)**—Very fast growing, valued for producing quick shade. Over 60 ft.

**Maple, Schwedlers—The Purple Norway (*Acer Platanoides Schwedleri*)**—40 to 60 ft. Leaves are red and purple in spring, purplish-green in midsummer, golden yellow in fall.

Trees help to make our outdoor living rooms for leisure or play. They are needed as backgrounds and to frame the house. They add to our pleasure with beauty of form, foliage, flower and fruit, as specimens, in groups and in combination with shrubbery.

As backgrounds they are placed well back of the house line. To frame the house they are planted at both ends just forward of the front line of the house. Along straight drives they are set not less than 35 feet apart, alternately, and 5 to 10 feet from the edge of the driveway. Along curved roads or paths they should be in groups rather than in lines.

**MULBERRY, RUSSIAN (*Morus Alba Tatarica*)**—20-25 ft. Very hardy, small white to black sweet fruits. Used for hedges set 12 in. apart and kept pruned a few years, also for windbreaks, planted 10 ft. apart.

**OAK, PIN (*Quercus Palustris*)**—Very desirable for lawn, street and park planting. Grows rapidly, 30 to 60 ft. Branches are drooping in form with age. Foliage is deep green, turning to scarlet and yellow in fall.

**OAK, RED (*Quercus Rubra*)**—50 to 80 ft. Dark red foliage in fall. A majestic tree, fine for lawn or avenue.

**PLANE-TREE (*Platanus*)** — Handsome large trees with branches and limbs almost creamy white in winter. Often planted for shade and street trees. They stand the smoke and gases of cities better than most trees.

**EUROPEAN PLANE-TREE (*Platanus orientalis*)**—Grows up to 80 ft. Is more compact than the American and is not attacked by the fungus disease, which sometimes injures the American. One of the best street trees.

**AMERICAN PLANE (*Platanus occidentalis*)**—Commonly called Buttonwood, or Buttonball, also wrongly called Sycamore. Grows 130 ft. or more. Very hardy.

**POPLAR, CAROLINA (*Populus Engelm*)** —Very rapid growing, healthy, hardy tree with large, glossy, pale to deep green leaves; pyramidal in form; grows 25 to 40 ft. Useful for temporary results.

**POPLAR, LOMBARDY (*Populus Nigra Italica*)**—A narrow, steeple-like tree, strikingly picturesque, attaining a height of 60 ft. or more; valuable as specimens, as screens, in mixed plantings for contrast with broader trees, and behind buildings. Rapid growing.

**TULIP (*Liriodendron Tulipifera*)** — Sometimes called Whitewood or Yellow Poplar. A large, magnificent tree, 60 ft. up. Glossy green foliage turns yellow in fall; tulip-like, greenish-yellow flowers with orange center appear in June.

**WEeping WILLOW, WISCONSIN (*Salix Blanda*)**—A hardy tree, 25 to 40 ft., with slender, drooping branches.

**WILLOW, GOLDEN WEEPING (*Salix Niobe*)**—20-30 ft. Golden bark, drooping branches.

## Planting and Care

Be generous in digging the hole for your tree. For an 8 ft. tree dig the hole 6 ft. across and 2 ft. deep. Get good soil to tamp firmly about the roots.

Trees from the nursery are best because they have been transplanted and have more roots near the trunk.

Cut off the ends of the roots smoothly as this freshly cut surface facilitates growth of new rootlets.

Pruning at planting time should be confined to removal of some of the limbs or some of the branches on these limbs. It



**CHINESE ELM (*Ulmus Pumila*)** On grounds of the Federal Fish Hatchery at Neosho. 6 ft. tall when planted in 1928. 11 ft. tall, 1 1/4 in. diameter in July, 1930. Remarkable for resistance to drought, to severe extremes of temperature, to insects and diseases; for its graceful beauty; for rapidity of growth and for adaptability to different soils.

## Valuable Nut Trees

**BLACK WALNUT** — Thrives in nearly every state. The nuts of the following budded or grafted varieties are of excellent quality and the kernels usually crack out in halves:

**OHIO**—Early bearer. Nuts medium to large and thin shelled.

**THOMAS**—Grows larger than ordinary Black Walnut. Nut is very large.

**ENGLISH WALNUT**—The Franquette is doing well in the Eastern, Middle and Southern states, in Oregon and Washington. It makes a large ornamental tree and bears a medium to large fine flavored nut with fairly thin shell and excellent cracking quality. One tree, 12 years old, at Lancaster, Pennsylvania, bore two bushels of fine nuts.

**PECAN**—Grows wild from southern Indiana and Clinton, Iowa, to the Gulf coast on a wide range of soils. Northern varieties such as Butterick and Indiana are adapted for Ozarks and North. Southern varieties, Stuart, Moneymaker, etc.

is a mistake to cut back the leader although this can be safely done with certain kinds, such as Box Elder, Poplars, Soft Maple, Magnolia, Tulip and Chinese Elm. After the tree is established prune only to preserve the natural habit of the variety. All cuts should be made close to and parallel to the trunk or to the branch remaining.

It is indeed a sad sight to see noble Elms, Sugar and Norway Maples and Oaks dehorned. If you hire anyone to prune your trees make him tell you exactly how and what he is going to cut.



# Living Green Fences for Beauty and Utility



*Spirea Van Houttei*. Makes a Very Graceful, Free-Growing Hedge

## UNSHEARED HEDGES

**Japanese Barberry** and the following are most used for unsheared hedges. *Spirea Van Houttei* has graceful arching branches, attractive green foliage and is a mass of white flowers in April or early May. Grows 6 to 8 feet. Plant 18 to 24 inches apart.

**Rosa Rugosa**—Very hardy, dense-growing shrub 4 to 5 feet with shining dark green corrugated leaves, and red or white flowers followed by orange-red seed pods; endures partial shade; plant 15 to 18 inches apart.

**Snowberry**—Valuable for good foliage; white berries in late summer into winter; grows 3 to 5 feet; endures partial shade; plant 15 to 18 inches apart.

**Coralberry**—Has good foliage and graceful arched branches with clusters of red berries all winter; grows 3 to 5 feet; endures shade; plant 15 to 18 inches apart.

**The Golden Bells**, *Intermedia*, *Fortunei* and *Viridissima*; *Althea*, *Bush Cranberry*, *Snowball*, *Mock Orange* are planted 2 to 2½ feet apart. *Hydrangeas* are set 18 to 24 inches apart.

## FOR EDGINGS FOR WALKS AND DRIVES

**Japanese Barberry**. *Deutzia Gracilis* grows 2 to 3 feet, has white flowers in May, is not trimmed; plant 12 to 18 inches apart. *Regel's Privet* grows 3 to 6 feet, holds foliage into winter, is kept trimmed; plant 12 to 18 inches apart. *Crimson Spirea* and *Dwarf White Spirea* grow 1 to 2 feet tall and blossom nearly all summer; plant 8 to 12 inches apart, untrimmed.



Here are two plants of *California Privet*. Both are 12 to 18 inches in height. Obviously those with three canes up, such as we furnish, will make a good hedge much sooner than plants with fewer canes.



## SHEARED HEDGES

**Japanese Barberry** is the best low growing protective hedge. Its thorns keep out children and dogs but do not tear the clothes. Grows 3 to 4 feet, usually pruned lightly, plant 12 to 18 inches apart.

**Privet** is the most popular hedge plant and may be kept pruned at the desired height.

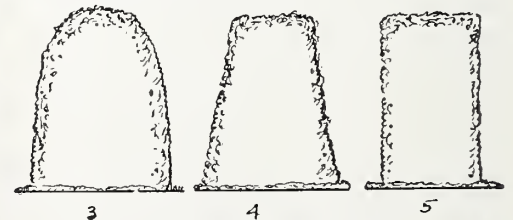
**California Privet** is the most attractive but is not very hardy. *Amur River Privet* is very hardy but loses its leaves earlier.

## HOW TO PLANT PRIVET

Plants can be set eight inches to a foot apart in the row. Where a very dense hedge is desired, the plants can be set in a double row, each plant one foot and the rows also one foot apart.

In preparing the ground, dig a trench a foot or more deep and set the plants six to eight inches deeper in the ground than they were in the nursery. This will bring three or four of the lower branches below the surface, which, after the first year, will make roots of their own, giving a dense solid growth.

Mound the dirt up six or eight inches above the level of the ground, to prevent the tops drying out. Rake this off when the buds start to open. Cut tops off 4 inches above ground.



These are Correct Forms of Privet Hedge

## TRIMMING HEDGE

The Privet takes readily to shearing. By using the shears repeatedly throughout the summer, trimming the new shoots, while they are tender and soft, the hedge can be trained into any of these formal shapes.



*Barberry (Japanese)*. The Best Low-Growing Protective Hedge



# How to Succeed With Roses

**PLANTING SEASONS**—In most parts of the United States fall is a good time to plant, preferably late fall, because roses are slow in maturing and the wood hardens later than most plants. The roots have time to become established during the winter and are ready to start growth when spring comes. If there is danger of hard freezing before the plants are received, cover the ground with a mulch of straw or similar material until the plants arrive. When roses are to be planted in the spring they should be ordered in winter for shipment at the earliest date they can safely be transplanted.

**LOCATION**—Roses must have at least half a day's sunlight and they cannot thrive in competition with the roots of trees.

**SOIL**—A clay loam is preferable but any ordinary garden soil thoroughly mixed with a large proportion of humus (well-rotted manure or vegetable matter) will give satisfactory results.

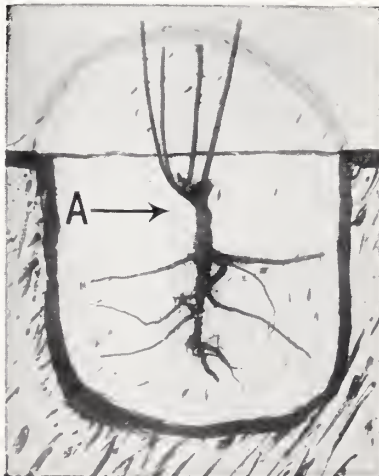
## PLANTING DISTANCES—

Hybrid Tea. . . . . 18 to 24 inches  
Hybrid Perpetuals. . . . . 24 to 30 inches  
Polyantha. . . . . 9 to 12 inches  
Climbers on banks. . . . . 2½ to 4 feet  
Climbers on fences. . . . . 8 to 12 feet

**PREPARATION OF SOIL**—Dig the ground 18 to 24 inches deep and mix in thoroughly a generous supply of well-rotted manure. If the soil is gravelly or sandy, mix in some clay. An ideal mixture is one-third each of top soil, clay and manure.

**PLANTING**—When your roses arrive, soaking them thoroughly in water or burying the entire plant a day or two in soil will be beneficial. Be careful to avoid exposure of the plants to sun or wind. Carry them about in pails with the roots covered with water. Cut off the ends of any bruised or broken roots. Budded roses should be set two inches lower than they stood in the nursery. Spread the roots out carefully in the holes and tamp the soil closely about them within about two inches of the surface of the ground, pour in plenty of water and then fill up the hole with loose dirt. The next step in either fall or spring planting is to mound the dirt up around the tops 8 or 10 inches above the ground. This mound should be removed in the spring after danger of severe freezing is past.

**PRUNING AT PLANTING TIME**—Cut out all but 3 or 4 strong canes and head these back to 3 to 4 eyes. If planted in the fall more wood can be left to be cut off in the spring.

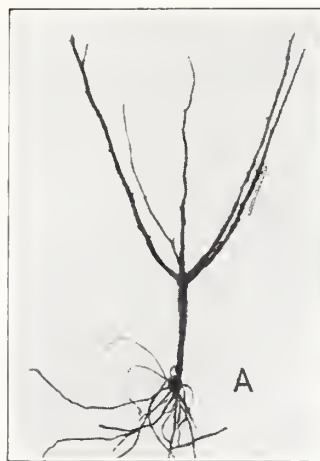


Neosho Roses in China

June 13, 1930, Soochow, China.

"I am enclosing herewith two pictures of the Climbing American Beauty Rose you sent me in the spring of last year. It seems to like its new home and is growing nicely. Needless to say the pictures do not show up its real beauty when in full bloom. Everyone who saw it admired it greatly.

"The Red Radiance Rose you sent along with the Climbing American Beauty is also doing nicely and the blooms are lovely."—W. B. Johnson, Yates Academy.



**PLANTS**—First class two-year old field-grown bushes will give the best results. Nurserymen usually make two grades of salable plants. We offer the best grade only. Above is picture of our 2-year No. 1 Radiance.

## PLANTING ROSES

When planting budded roses, the point where the bud was inserted in the stock (as shown in picture at the left) should be set several inches below the surface of the ground.

**CARE AFTER PLANTING**—Keep the top soil lightly stirred during the growing season. After the flower buds begin to form, pour about half a gallon of weak liquid manure around each plant weekly as long as the plant blooms. Half a barrel of manure to a barrel of water is the proper proportion. Instead of liquid manure, Vigoro can be used, scattering a generous handful about each plant about once a month and watering it into the ground. Frequent spraying with water will help to keep the leaves healthy. This will also help to check insect pests such as aphids and red spider.

## PRUNING

**Hybrid Teas** should be cut back every spring to 3 or 4 eyes, the more vigorous varieties like the Radiance to 5 or 6 eyes.

**Hybrid Perpetuals** are cut back to about 18 to 20 inches from the ground. Heading back moderately after the June blooming will increase blooming in the fall. Both of the above classes bloom on one-year wood only so that regardless of their age, one-year wood only should be left above the ground.

**Polyantha** (Baby Roses) require little pruning except cutting out the older twigs and removing interfering branches.

**Climbers**—As soon as they are through blooming, the cluster class like Excelsa should have the old canes cut off at the ground and the new canes trained on the support. With the larger bloom class like Dr. Van Fleet, some of the old canes are cut out and some are partly cut back according to the growth it has made. All old flower stems should be cut back to about an inch from the main stem. Spring pruning of climbers is then limited to shaping of the plant.

**Rugosa** roses require only the removal of old or undesirable canes.

**Hugonis** roses need only gradual renewal by removal of old canes.

**WINTER PROTECTION**—Hybrid Teas require winter protection in any climate where there is frost. Mound the dirt 4 to 6 inches around each bush and after the ground freezes cover the entire bed with dry leaves or straw. Some hill up the earth 10 to 12 inches and after freezing, fill in the hollows between the plants with leaves held in place by tree branches or wire netting. Remove this soil and mulch in the spring after danger of severe frost is past.

**CONTROL OF INSECTS AND DISEASE**—Proper care is the first step in combating insects and diseases.

Sucking insects like Aphids can be killed by spraying with "Black Leaf 40," a teaspoon full to two gallons of water, adding one ounce of soap. Rose slugs and other leaf eating pests can ordinarily be controlled by dusting with hellebore diluted with double its weight of cheap flour. Arsenate of lead one ounce to one and one-half gallons of water is also effective. Rose bugs, curculio and caterpillars can be picked off by hand and dropped into water containing a little kerosene.

**Black Spot and Mildew**—An ounce of prevention is worth a pound of cure. When the third or fourth set of leaves have grown, dust them thoroughly with a mixture of 9 parts of dusting sulphur and one part of dry powdered lead arsenate, used preferably when the dew is on. Continue this application every week or two during the growing season. If one part of powdered tobacco dust is added to this mixture it takes care of all insect pests except the rose bug.

Pick off and burn any yellowing leaf with black spots on it.



# Beautiful Roses for Every Home

No garden is complete without Roses. Follow our simple directions and you can have beautiful blooms the first season after planting. A Neosho customer counted over 1,000 blooms on 17 bushes the very first season. (See page 15 for planting and care.)

## Climbing Roses

They are very hardy, resistant to insects and disease, vigorous in growth, making canes 10 ft. or more in height, and adaptable to many uses—trained on a trellis, a porch, a house, over banks, on stakes 4 to 8 ft. high, or even allowed to grow at will as a rambling bush. Plant 8 to 16 ft. apart on fences, 2 to 4 ft. apart on banks for ground cover.

**AMERICAN PILLAR**—A single flowering variety of great beauty. The flowers are of large size, 3 or 4 inches across, of a lovely shade of pink with a clear white eye and cluster of yellow stamens. These flowers are borne in immense bunches, and a large plant in full bloom is a sight not easily forgotten. Vigorous grower.

**CLIMBING AMERICAN BEAUTY**—Rose crimson flowers in profusion suitable for cutting. A vigorous grower, very free from attacks of insects and disease. Older canes should be pruned out each year. Fragrant.

**DR. VAN FLEET**—Pure apple-blossom-pink flowers, good for cutting. A very profuse bloomer.

**DOROTHY PERKINS**—Double, shell-pink flowers in clusters; vigorous and dependable.

**EXCELSA**—Sometimes called "Red Dorothy Perkins"; far superior to the old Crimson Rambler. Radiant, blood-red double flowers in large clusters. Very vigorous and quite free from attacks of insects and disease.

**FLOWER OF FAIRFIELD**—The "Ever-blooming Crimson Rambler."

**GARDENIA**—The buds are bright yellow, the flowers creamy with yellow centers; early, in small sprays; fragrant.

**LADY ASHTOWN**—Large, soft rose colored blooms. One of the most free flowering climbers.

**LADY GAY**—Cherry-pink flowers in clusters.

**MARY WALLACE**—Pillar rose type. Well formed, semi-double flowers of a bright clear rose-pink with salmon base to the petals; flowers large, often exceeding four inches in diameter; very free flowering; hardy.

**PAULS SCARLET CLIMBER**—Bright, vivid scarlet double flowers in clusters of three to six. No other rose can compare with it in brilliancy of color.

**SILVER MOON**—Large, silvery white, with yellow stamens. Foliage glossy, dark green, very vigorous grower.

**WICHURIANA** (Memorial Rose)—Pure white flowers with yellow stamens, single, fragrant. Especially valuable where a trailing plant is desired forming a dense mat of almost evergreen foliage.

## Hardy Rugosa Roses Thrive Everywhere

The hardest of all roses, very thorny, with shining, dark green, very wrinkled leaves; will grow almost anywhere, even on barren, wind-swept slopes and seashore sand. Seldom attacked by insects or diseases.

Excellent for hedges, for planting with other shrubs or as specimens. They require little attention except thinning out the dead wood and keeping them in bounds.

**CONRAD F. MEYER**—Large, fragrant, silvery pink flowers, in June and occasional blooms thereafter. Grows 6 to 10 ft. Should be planted not less than 3 ft. apart.

**F. J. GROOTENDORST—RED.** True rugosa foliage. Blooms bright crimson, in clusters, produced from early spring to frost. Strong but compact, dwarfish grower, 4 to 6 ft. Particularly suitable for hedging and mass planting.

**F. J. GROOTENDORST—PINK.** Same as above except in color.

**ROSA RUGOSA ALBA**—Large, white, fine-petaled flower, followed by attractive orange-red seed pods; a dense grower, 3 to 5 ft. tall.

**ROSA RUGOSA RUBRA**—Large, very fragrant, bright pink to deep carmine flowers, followed by orange-red seed pods. A dense grower, 3 to 5 ft. tall.

**SIR THOMAS LIPTON**—Snow-white flowers in early June and at intervals all summer. Grows 4 to 6 ft.

## Chinese Briar Roses

**HUGONIS**—Is of shrub-like habit of growth and naturally forms symmetrical bushes about 6 feet high, and the same in diameter; plant with other shrubs or as single specimens. Its delicate yellow single flowers are produced on long arching sprays early in May, every branch of the previous season's growth becomes lined on both sides to the very tips with these attractive flowers and after it has finished flowering it remains an attractive decorative bush for the balance of the season. Perfectly hardy.



Lady Gay—Similar to Dorothy Perkins, but less subject to mildew.

## Hybrid Tea Roses

The Hybrid Tea Roses bloom more constantly than the Hybrid Perpetuals, but are not as hardy, requiring winter protection.

**DUCHESS OF WELLINGTON**—A profuse bloomer, intense saffron-yellow, lightly stained with crimson.

**ETOILE DE FRANCE**—Large brilliant crimson flowers, fragrant. Strong growing, free blooming.

**GRUSS AN TEPLITZ**—Dazzling scarlet; fragrant; one of the best deep red roses for continuous bloom; hardy. Strong vigorous grower.

**KAISERIN AUGUSTA VICTORIA**—Flowers are full double; creamy white; fragrant. Continuous bloomer on long stems.

**KILLARNEY**—Clear, bright pink on long stems; excellent for cutting. Fragrant.

**LA FRANCE**—Light, silvery pink, very double and fragrant. Strong grower, moderate bloomer.

**LOS ANGELES**—Luminous flame-pink, toned coral, shaded translucent gold at base of petals.

**MADAME CAROLINE TESTOUT**—Large size, bright pink, fragrant.

**MADAME EDOUARD HERRIOT**—Buds are beautiful coral-red shaded with yellow at the base. The open flowers are medium size semi-double.

**J. L. MOCK**—Large flowers of deep carmine-pink with outside petals of soft rose-pink.

**OPIHELIA**—Deep yellow on opening but quickly fades lighter except in the center. Tall but not bushy plant; dependable bloomer. Excellent for cut flowers.

**RADIANCE**—One of the best and most popular pink roses. Grows bushy and tall, is one of the hardest, resistant to disease and a liberal bloomer.

**RED RADIANCE**—A brilliant crimson. In other respects the same as Radiance.

**SOUVENIR DE CLAUDIUS PERNET**—Exceptionally beautiful in form and color, a fadeless sunflower yellow. Buds are long, pointed on long stems. Strong, vigorous growing and profuse bloomer.

**SOUVENIR DE GEORGES PERNET**—Long pointed buds of rich oriental-red tipped with carmine and overspread with a golden sheen. Strong grower and profuse in flowering.

**SUNBURST**—Bronze-yellow; fine for cutting. Growth low and somewhat spreading. Has few thorns.

**TALISMAN**—A remarkable combination of colors with shadings of gold, apricot, yellow, deep pink and old rose. The buds are long and flowers double. Strong grower and free flowering.

## Dainty Tea Roses

**LADY HILLINGDON**—Coppery apricot yellow, beautiful in the bud; a strong grower and very free flowering.

**MAMAN COCHET**—The best of the tea roses; moderately hardy; rosy, coral pink; large, exquisitely tapering buds, very fragrant; continuous bloomer.

## Dwarf—Polyantha Roses

These are perfectly hardy, constant and profuse bloomers in clusters nearly all summer, in various colors, bushy growth of 18 to 24 inches; useful as bedding roses, to edge garden borders or walks, and in front of shrubbery masses. Can be transplanted to pots in fall to furnish winter blooms indoors. Prune lightly in late winter or early spring.

## Hybrid Perpetual Roses

This class do not require winter protection. They bloom very profusely in June and early July and again in the fall if properly pruned and fed.

**MARSHALL P. WILDER**—Deep dark red; large perfect flowers good for cutting; a vigorous grower; fragrant.

**FRAU KARL DRUSCHKI**—"Snow Queen," "White American Beauty." Universally acclaimed the best white rose. A pure snow-white double flower, often 4 inches or more across and last a long time. Fine for cutting. Blooms almost continuously. Strong, vigorous grower, often 5 ft. or more in a season. It is best pruned moderately.

**GENERAL JACQUEMINOT**—"General Jack" is one of the most popular red roses; bright crimson-scarlet, fragrant. Needs quite severe pruning. Good for cutting.

**PAUL NEYRON**—Very large, fragrant, bright clear pink. A strong grower.

**SOLIEL D'OR**—Large full flowers, gold and orange yellow.





LOS ANGELES



OPHELIA



RED RADIANCE



SOUVENIR DE CLAUDIUS  
PERNET



DUCHESS OF WELLINGTON



BABY OR DWARF  
POLYANTHA  
ORLEANS



KAISERIN AUGUSTA  
VICTORIA



RADIANCE (Pink)



GRUSS AN TEPLITZ



GENERAL JACQUEMINOT



FRAU KARL DRUSCHKI



PAUL NEYRON

Have Roses of Rarest Beauty This Summer





AN ARTISTIC EVERGREEN PLANTING ATTRACTIVE THE YEAR ROUND



MUGHO PINE



PFITZER'S JUNIPER



PLUME RETINOSPORA



1

2

3

4

5

6

- No. 1. Black Hills Spruce.
- No. 2. Globe Arborvitae.
- No. 3. American Arborvitae.
- No. 4. Blue Virginiana Juniper.
- No. 5. Globe Arborvitae.
- No. 6. American Pyramidal Arborvitae.



# Evergreens Are Beautiful the Year Round

The true evergreen remains green in spite of winter and frequent frost. Their ornamental value is outstanding but especially impressive in winter, adding a friendly note of cheer and warmth. They add distinction and stability to home grounds and increase the value of the property.

Their great diversity in form, texture, color and habit of growth makes it possible to select varieties appropriate for any landscape effect—for foundation or border plantings, as specimens, as hedges, in rock gardens and for screens or shelters.

All evergreens shed some of their needles at some period, for instance the White Pine lose some of their foliage in the fall of the second year and the Arborvitae show brown foliage during the early fall. This is due to natural shedding and disappears in a short time.

## GROUP NO. 1

**SPRUCE, BLACK HILL** (*Picea albertiana*)—The hardiest Spruce, symmetrical, compact, and bushy in habit of growth. When fully grown it is from 25 to 40 ft. tall and width of 10 to 12 ft. A slow growing tree. The foliage varies from green to bluish tint.

**SPRUCE, COLORADO BLUE** (*Picea pungens glauca*)—These trees are perfectly shaped, with heavy foliage of rich steel-blue. Very slow growing.

**SPRUCE, NORWAY** (*Picea excelsa*)—Probably the most widely used Evergreen, a rapid growing handsome tree, 80 to 100 ft., thriving on a great variety of soils, one of the best Evergreens for shelters and wind breaks and also for trimmed hedges.

**PINE, SCOTCH** (*Pinus sylvestris*)—A fairly rapid growing tree, up to 60 ft. The needles are long and pale green.

**HEMLOCK, CANADIAN** (*Tsuga canadensis*)—A broad pyramidal tree with graceful spreading branches and dark green foliage. Grows 50 to 60 ft. Can be sheared to any form or size. In Southern Missouri it does best in partial shade.

## GROUP NO. 2

**JUNIPER, SYLVESTER** (*Juniperus Sylvestris*)—This handsome dark green Juniper is upright growing and endures shade. A valuable but scarce variety.

**JUNIPER, SCHOTT** (*Juniperus Virginiana Schottii*)—A pyramidal, compact variety with yellowish-green foliage the year round. Grows 12 to 15 ft. Very hardy. Fine for foundation plantings.

**JUNIPER, BLUE** (*Juniperus virginiana glauca*)—Valued for its glaucous blue foliage and compact pyramidal form. Grows 15 to 20 ft. One of the best Junipers.

**RETINOSPORA PLUMOSA** (*Chamaecyparis pisifera plumosa*)—A handsome acorn-shaped evergreen with feathery light green foliage. Sometimes called Plumed Cypress. Will attain height of 20 to 30 ft. Requires partial shade in Southwest Missouri.

**RETINOSPORA PLUMOSA AUREA** or **GOLDEN PLUMED CYPRESS**—The same as above except that it has light green, almost golden foliage.

**ARBORVITAE, AMERICAN** (*Thuja occidentalis*)—The arborvitae are very hardy and dependable in almost any situation. The American grows bushy at the bottom tapering at the top with fine deep green foliage. Very useful as specimens or for hedges. Limit in height 30 to 35 ft.

**ARBORVITAE, GOLD SPIRE** or **GOLDEN CHINESE PYRAMIDAL** (*Biota aurea conspicua*)—Conspicuous for its golden foliage partly suffused with green. Compact, erect in growth and quite hardy. Grows 8 to 10 ft.

**JUNIPER CANNART** (*Juniperus virginiana cannarti*)—A beautiful tree of compact pyramidal habit and graceful dark green foliage. Grows 12 to 15 ft. A very desirable Evergreen for foundation plantings.

**JUNIPER, GOLD TIP** (*Juniperus virginiana elegantissima*)—A choice variety of pyramidal habit, although more spreading the first few seasons. In fall and winter the tips of the branches are golden yellow. Grows 10 to 15 ft.

**ADAPTABILITY**—The Oriental Arborvitae or Biotas are not hardy north of Kansas City, but are most satisfactory for more southern plantings where they withstand the hot summers and protracted droughts. The Junipers thrive under widely varying conditions, both north and south.

## Varieties for Special Locations

**ENDURING CITY CONDITIONS**—Dwarf Japanese Yew; Austrian, Mugho and Scotch Pines; Colorado Blue Spruce, suffer less than most varieties in localities where there is a good deal of smoke and gas in the air.

**ENDURING MOIST SITUATIONS**—American Arborvitae.

**ENDURING HOT DRY SITUATIONS**—Ponderosa, Jack, Scotch and Mugho Pines; Chinese, Irish, Pfitzers, Platte River, Prostrate and Savins Junipers; Chinese Arborvitae (Biotas).

**ENDURING SHADE**—The Yews, the Junipers, Communis, Pfitzers and Prostrate; Hemlock.

**HEDGES**—The Arborvitae (American & Chinese), Norway Spruce and Hemlocks are the leading sorts. These varieties can be clipped and maintained at only a few inches or several feet in height. Small sizes bare rooted are planted 15 to 18 inches apart.



The drawings above show the habits of growth of evergreens.

No. 1 are tall trees. Some varieties can be kept small by trimming.

No. 2 run 8 to 20 ft. tall, with spread of 3 to 5 ft.

No. 3 grow to various heights, some reach 12 to 15 ft. or more. Can be trimmed.

No. 4 grow 3 to 4 ft. in height and in width.

No. 5 are half erect types of great value in foundation and entrance plantings and rock gardens.

No. 6 is a low, creeping form for rock gardens, terraces and in front of taller sorts.

**JUNIPER, SPINY GREEK** (*Juniperus excelsa stricta*)—A compact dwarf tree of conical habit and grayish-green glaucous foliage. Excellent for foundation plantings, rock gardens, in tubs or urns or as specimens. Grows 4 to 6 ft.

**JUNIPER KETLERI** (*Juniperus Ketleri*)—A splendid pyramidal evergreen, with fine gray-green foliage. Grows 12 to 15 ft.

## GROUP No. 3 (This group useful for accent in foundation plantings)

**ARBORVITAE, AMERICAN PYRAMIDAL** (*Thuja occidentalis pyramidalis*)—One of the most popular evergreens; narrow pyramidal in form with deep green foliage. Needs full exposure to sun. Will grow 20 to 30 ft. tall. Can be trimmed to desired height.

**ARBORVITAE, MAKERS PYRAMIDAL** (*Biota orientalis pyramidalis*)—When about 4 ft. high this variety forms an almost perfect pyramid, broad at the base and tapering to a blunt point at the top. The foliage is light green.

**JUNIPER, COLUMN ENGLISH** (*Juniperus communis columnaris*)—A narrow formal compact pyramidal evergreen with bluish-green foliage.

**JUNIPER, IRISH** (*Juniperus communis hibernica*)—A slender formal evergreen, upright conical with bluish-green foliage. Grows 6 to 8 ft.

**JUNIPER, PLATTE RIVER**—A narrow pyramidal type of juniper with very bright green foliage, in early spring, gradually darkening in summer. Thrives in sun or partial shade.

## GROUP NO. 4 (These varieties are desirable for foundation plantings)

**ARBORVITAE, GLOBE** (*Thuja occidentalis globosa*)—A naturally globe-shaped compact evergreen with deep green foliage.

**ARBORVITAE, HERCKMANS GOLDEN** (*Biota orientalis aurea nana*)—Strikingly beautiful because of its bright golden-green foliage and compact globular form. Grows 8 to 10 ft. Not hardy north of Kansas City.

**ARBORVITAE, BONITA** or **LOCKIE'S DWARF GLOBE** (*Biota orientalis bonita*)—A dwarfish grower with rich green foliage. Nearly globe shaped. Not hardy north of Kansas City.

**PINE, MUGHO** (*Pinus Montana mughus*)—A low mound-like evergreen with dense dark-green needles. The new spring growth resembles little candles. Very hardy.

**JAPANESE YEW, DWARF** (*Taxus cuspidata nana*)—A slow growing dwarf tree, long lived and very hardy; low growing, irregular and picturesque in outline. Shiny green foliage. Endures dense shade, valuable for foundation groups, formal gardens, rockeries and cemetery lots.

## GROUP No. 5 (These are all suitable for foundation planting)

**JUNIPER, PFITZERS** (*Juniperus chinensis pfitzeriana*)—Its habit of growth with wide-spreading horizontal branches, its attractive grayish-green foliage, its ability to thrive in all sections and under nearly all soils or exposures make this one of the most valuable evergreens. In foundation groups, for terraces and as specimens it is unexcelled.

**JUNIPER, SAVINS** (*Juniperus sabina*)—A low growing evergreen of spreading fan shape habit and dark green foliage. Very useful in foundation groups, in front of other evergreens and in rock gardens.

## GROUP No. 6

**JUNIPER ANDORRA** (*Juniperus communis depressa plumosa*)—A rare low growing variety with branches about 18 inches off the ground. The foliage is bright green but in fall and winter is tinged with rich purple.



# Evergreens Produce Distinctive Effects

## What Makes Value



## When to Plant

In this district—Southwest Missouri—the best time to plant is from September 15th to December 1st and from about March 15th to June 1st. The time is not so important as the manner in which the planting is done and the conditions under which the planting is made.

**PLANTING**—If planting cannot be done at once, the trees should be placed where they will be protected from wind and sun and should be thoroughly watered.

The holes should be dug several inches deeper and wider than the size of the ball. Pack good soil firmly in the bottom of the hole. Set the tree slightly deeper than it stood in the nursery. Loosen the burlap and roll it back from the top. Pack good soil firmly about the ball to within a few inches of the surface of the ground. Then pour in as much water as will soak away. Fill up the hole with loose dirt.

Since evergreens are furnished with a ball of earth wrapped in burlap, several transplantings with root prunings are necessary in the nursery to develop a mass of fibrous roots within the ball. Careful pruning of the tops is also required so that each specimen may be well shaped. Evergreens are offered for sale by height, but their value varies according to how well they have been grown and trained in the nursery. Obviously one evergreen will be worth more than another of the same variety and height.

**CARE AFTER TRANSPLANTING**—Cultivate the ground for about 18 inches around the tree. Give the trees a thorough soaking at intervals as needed rather than frequent sprinkling. Evergreens newly transplanted should have plenty of moisture before winter sets in and again during the dry summer months. Well-rotted leaves, straw, hay or straw-manure make a good mulch.

**FERTILIZERS**—Fertilizer should never be placed in contact with the roots. Liquid manure applied several times in the spring has been found very satisfactory. Some have used a tablespoonful of Nitrate of Soda dissolved in water early in the spring before growth starts.

**PRUNING**—After transplanting in their permanent location, the Pines, Spruces, Firs and Hemlocks require no pruning. When it is desired to keep Arborvitae and Junipers to a certain size or shape, they are clipped with a sharp pruning

knife or pruning shears before the new growth starts in early spring.

**CONTROL OF INSECTS**—Bag worms can be controlled by spraying with 1½ lbs. of lead arsenate powder to 50 gal. water or the bags can be picked off by hand in the fall or early spring. For aphids or plant lice, use a 4% miscible oil or petroleum-soap solution in late autumn or before growth starts in the spring. During hot, dry summer weather the Red Spider multiplies very rapidly and causes the foliage to turn a rusty color. This insect is very small but its presence is sometimes indicated by very small white webs. Spraying with a strong stream of water will often eradicate them.

**INJURY FROM DOGS**—Dogs sometimes injure the lower branches causing the foliage to turn black. This can be prevented with a wire screen, but a planting of Japanese Barberry in front of the Evergreens is effective and usually does not spoil the appearance of the plantings.

## Broadleaf Evergreens

This class of trees and shrubs hold their foliage during the dormant period. They are valued for their evergreen foliage, but some for beautiful flowers also. They are desirable for lawn specimens, for foundation plantings and with the conifers.

An acid soil is necessary. This condition can be secured by sprinkling aluminum sulphate, one to three pounds to

the square yard. The ideal preparation for planting is to dig the bed three feet deep. Put a layer of ashes in the bottom and fill in with leaf mold or peat. After planting, mulch with leaves, oak preferred. These plants are moved with a ball of earth. The ground should not be allowed to become too dry.

Varieties starred are most used in middle west.

**ABELIA GRANDIFLORA** — Described under shrubs, page 8.

**AZALEA**—These vary in height according to variety and also in color of blossom. Some are only half-evergreen. The leading hardy varieties are: *A. Amoena*, 3 to 4 ft., purple-red flowers; *A. Hindogiri*, 3 to 4 ft., carmine-pink; *A. Macrantha*, 2½ to 3 ft., brick-red.

**BERBERIS ILICIFOLIA (Holly Barberry)**—Grows 5 to 6 ft. Holly-like leaves, semi-evergreen. Yellow flowers.

**BOXWOOD (Buxus)** — Are quite slow growing and have small shining foliage, easily pruned. *B. Sempervirens* (Common Box), grows 12 to 15 ft. Useful for edging and as specimens in tubs, urns or boxes. *B. Suffruticosa* (Dwarf or Old English Box), grows 3 to 4 ft. Extensively used for edging flower and rose gardens and walks.

**\*COTONEASTER HORIZONTALIS**—Grows 1 to 2 ft. spreading, nearly evergreen. Valuable for crimson leaves and

scarlet fruits into winter. Useful for rock garden and in front of evergreen groups. *C. Francheti*, grows 5 to 6 ft., upright, with spreading branches, scarlet fruits.

**DAPHNE CNEORUM**—Grows 1 ft., low spreading, gray-green foliage, fragrant pink flowers in April and May.

**\*EUONYMUS PATENS (Evergreen Wahoo)**—Grows 6 to 8 ft., half evergreen foliage, and has pink and orange fruit in winter.

**\*EUONYMUS RADICANS VEGETUS (Wintercreeper, Bigleaf or Evergreen Bittersweet)**—This evergreen self-clinging vine grows up to 15 ft., has orange scarlet berries and is excellent for walls or banks and as ground cover under trees.

**HEDERA HELIX (English Ivy)** — See page 11.

**\*ILEX OPACA (American Holly)**—Slow growing, 15 to 20 ft. Glossy spiny leaves, red berries in winter. *I. Crenata* (Japanese Holly), grows 8 to 10 ft., can be sheared.

**KALMIA LATIFOLIA (Mountain Laurel)**—Grows 5 to 7 ft. Clusters of pink flowers in May or early June.

**\*MAHONIA AQUIFOLIA (Oregon Holly Grape, or Holly-leaved Ashberry)**—Grows 4 to 5 ft. Smooth, shiny leaves, turning to rich scarlet in autumn. Yellow flowers in May, followed by blue berries. Likes partial shade.

**\*PACHYSANDRA TERMINALIS (Japanese Spurge)**—Grows 6 to 8 inches. Excellent for ground cover under trees or on banks in sun or shade.

**RHODODENDRON**—The leading hardy varieties are: *R. Catawbiense*, 6 to 8 ft., rosy-purple. *R. Carolinianum*, 5 to 6 ft., bright pink flowers. *R. Maximum*, 8 to 12 ft., light pink.

**VINCA MINOR (Periwinkle or Myrtle)**—A trailing plant with dark green leaves and blue flowers, useful for ground cover under trees.



A Good Arrangement of Evergreens and Shrubs.



# Good Plantings Reflect the Owner's Taste



A Tasteful Foundation Planting of Evergreens and Shrubs

## The Rock Garden

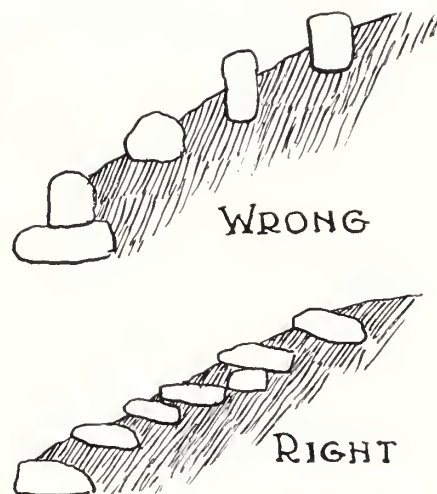
A good Rock Garden is a source of interest and delight to the flower lover. It is man's attempt to imitate natural conditions. It need not be large but must be constructed properly and placed where the sun can reach it. It is better to keep it away from trees, walls, or other artificial surroundings.

The rock work can be built above the general surface but a sunken garden has the advantage of using the excavated soil to build up the banks. In outlining the garden, one should avoid a formal or symmetrical arrangement. Good sized rocks, up to the largest that can be conveniently handled, should be used and placed close together. On the exposed side, the rock should not be deeper in the ground than one-fourth their height. Any crevices should be tamped full of good soil. The tiers of rocks should be placed so as to have a number of pockets or spaces irregular in shape and varying in size. These must have good top soil. The small plants like sedum will thrive in

the cracks and plants of trailing habit should be placed so they hang over the edges of the rocks. The taller plants with small shrubs and evergreens are used in the higher levels.

There are a great number of plants from which to make a selection. In perennials some require full sun, such as False Indigo, Sweet William, Baby's Breath, Catchfly (*Lychnis*), Yellow Day Lily, Iris, Hardy Phlox, Spirea Astilbe, Rock Madwort (*Alyssum Saxatile*), Bellflower (*Campanula Carpatica*), Shasta Daisy. Others will endure partial shade, such as Asters, Foxglove, Forget-Me-Not, Columbine, Plaintain Lily (*Funkia Caerulea*), Rock Cress (*Arabis Alpina*), Clove Pink (*Dianthus Plumarius*), Moss Pink (*Phlox Subulata*), Stonecrop (*Sedum Spectabile*). (See page 25 for heights, color, etc.)

In Evergreens the following are especially desirable: The Junipers, Pfitzers and Savins; Dwarf Japanese Yew and Mugho Pine.



Arrangement of Rocks



A Terrace Turned Into a Small Rockery



# Cherries and Pears—for Fruit and Flowers

## Cherries



**EARLY RICHMOND (Sour)**—The favorite early sour cherry. Fruit is medium size. A good canner. Tree is medium size. Ripens about a week earlier than Montmorency.

**ENGLISH MORELLO (Sour)**—Fruit is small, dark red colored, very sour, but loses much of its sourness if left on the tree until fully ripe. First-class for canning and preserving. Stands lower temperature and severer drought than any of the other leading varieties. Tree is small. Bears young. Especially good for gardens where a small-growing tree is desired.

"The three of us are very well pleased indeed with the way you handled our orders. None of us have ever seen better trees from a nursery."—John W. Bass, Missouri.

**YOU** may buy cherries fresh or canned; but if you ever tasted any fresh and ripe from the tree, you will surely want a few trees of your own. Sweet cherries thrive only in favored localities, preferring a sunny, equable climate and a deep, dry, gravelly or sandy loam; they also require particular attention and care, especially in spraying. But the sour cherry can be grown almost anywhere. It is notably hardy and quite adaptable to different soils and climates, preferring a moderately heavy loam. The soil must be well drained. The three leaders—Early Richmond, Montmorency and English Morello—ripen over a season of nearly forty-five days. The sour cherry makes a fine ornamental windbreak, gives great satisfaction in the home garden and offers great possibilities for profit for the grower who supplies local markets.

**MONTMORENCY (Sour)**—The most widely and most numerous planted cherry. It is the most productive and regular bearer. Colors early before ripe—a distinct advantage for shipping. The fruit is roundish, plump, flattened at the end, and a beautiful glowing red. It hangs in clusters, making picking easy.

The fruit does not crack or rot even in very hot, rainy weather. It hangs on without dropping after it is dead ripe. The flesh is rich, sprightly, and pleasant. A good shipper and a good canner. Does not mash down in the box.

The tree is the largest, most vigorous grower of the sour cherries. A very reliable cropper. Bloom seldom injured by late frost or severe winter freezes. The Montmorency can be grown in practically every part of the country except the low lands of the extreme South. Adapted to great variety of soil. Ripens in Southwest Missouri first week in June.

A sweet cherry planted alone is not likely to bear fruit because it is self-sterile. Plant a Black Tartarian with any other sweet cherry.

**BING (Sweet)**—Very dark red, almost black; very large; very good quality; ripening midseason; blooms early.

**BLACK TARTARIAN (Sweet)**—Most widely planted sweet cherry east of the Mississippi. Beautiful, lustrous, purplish-black when ripe. Medium size for sweet cherry; very good quality. The tree is a very large, vigorous, upright grower. Very productive and regular bearer. Early.

**GOV. WOOD (Sweet)**—Yellowish-white tinted with crimson; large; very good quality; ripening early, with Black Tartarian; blooms early.

**NAPOLEON (Sweet)**—The best yellow cherry. Often sold and grown as Royal Ann. Best of the sweets for dessert and canning. Very particular as to soil and climate. Apt to crack in wet weather, and somewhat susceptible to brown rot. Very large; high quality.

**WINDSOR (Sweet)**—Dark red, almost black; large; good to very good quality; ripening late; blooms early.

## THE PEAR

is one of the highest quality fruits. All pears should be picked before entirely ripe, especially Garber and Kieffer, otherwise the flesh around the core becomes coarse. Pears may be grown wherever apples succeed. They prefer heavy clay and clay loams and on such soils the growth is slower and there is less danger of blight. As a rule, growth should not be stimulated, certainly not with manure. The pear tree is an upright grower and thrives in sod, making it one of the best fruit trees for yard planting.

### Standard Pears

"Standards" are pears that are propagated on pear roots.

**ANJOU (Fall)**—Large, heavy, greenish-yellow with dull red cheek often russeted. Very good quality and keeps late. Tardy in coming into bearing.

**BARTLETT (Late Summer)**—The leading commercial variety, one of the most popular for dessert and canning. Large, clear yellow with blush on sunny side. Flesh is white, fine-grained, juicy and sweet. Tree is vigorous, very productive, hardy, bears young.

**FLEMISH BEAUTY (Early Fall)**—Large, pale yellow, mostly russeted. Very juicy and sweet.

**GARBER (Fall)**—Large, brownish-yellow with red on sunny side; flesh firm, granular, juicy and poor quality. Used for canning. Succeeds farther south where other varieties do not thrive.

**KIEFFER (Winter)**—Large, yellow russeted; flesh white, rather coarse, poor quality. A market and kitchen variety that succeeds farther south where other varieties fail. If picked when it takes on a slight yellow tint and placed in boxes in a dark place to ripen, they are good to eat out of hand. Tree hardy, very vigorous, resistant to blight. Blooms early.

**LINCOLN (Summer)**—Large, yellow, quality good to very good, similar to Bartlett, but more resistant to blight. Succeeds farther south than Bartlett can be grown. It has stood the severest tests of intense, moist, summer heat, and low altitude of the climate at Lincoln, Illinois, where it was originated by W. E. Jones. Comes into bearing early and bears heavy crops annually; very hardy. Blooms midseason.

**SECKEL (Fall)**—The standard of excellence for quality. Small, yellowish brown with russet red cheek; should be first choice for family orchard. Slow grower, dependable, productive and very hardy, notably free from blight. Blooms midseason.

**WINTER NELIS (Winter)**—The latest, best keeping pear. Can be held in cold storage until spring. Medium-sized, roundish, yellow, russeted pear with a short, heavy neck. Flesh fine-grained, sweet, aromatic, very good quality. Tree is hardy, has wide adaptability, and is a regular bearer. A slender, straggly grower. Blooms late.

### Dwarf Pears

#### Beautiful and Useful

The Pear can be grown more satisfactorily as a dwarf than other fruits, especially good for planting in small yards and gardens. It is propagated on quince roots, which make the tree a slow, dwarfish grower, and less subject to blight than standard pear trees. The fruit is the same as that of standard trees. They come into bearing young, often in the second or third year and are very productive.

They can be set close together, usually 10 to 15 feet apart; hence they are especially valuable for home gardens and small yards, where they are ornamental, as well as useful. They should be planted 4 or 5 inches deeper than they stood in the nursery row. Since they should never be more than 12 feet tall it is often necessary to remove one-half to two-thirds of the annual growth late each winter.

**DUCHESSE D'ANGOULEME (Fall)**—Best when grown as a dwarf. The largest of the good pears; white flesh, rich, good quality. Tree is hardy, upright grower, productive and long lived.

**ANJOU, BARTLETT and SECKEL** can be furnished as dwarf trees. For descriptions, see Standard Pear.





MOCK ORANGE, VIRGINAL (*Philadelphus Virginalis*) — Blooms in May. Grows 6 to 8 ft.



LILACS, FRENCH HYBRIDS (*Syringa*) — Various colors.



RED LEAVED BARBERRY (*Berberis Atropurpurea*) — Requires full exposure to sun to develop brilliant color.



BEAUTY BUSH (*Kolkwitzia Amabilis*) — Pink flowers, June, several years after transplanting. Grows about 6 ft.

THOUSANDS visit Rochester, N. Y., every summer to see the wonderful Lilacs in bloom. The other shrubs on this page are comparatively new but growing rapidly in favor.









WEIGELA EVA RATHKE (Diervilla) — Beautiful crimson flowers, May or June, grows 3 to 5 ft.



DEUTZIA LEMOINEI—White flowers, May. Grows 3 to 4 ft.



KERRIA JAPONICA (Cochorus Japonicus)—Called Globeflower or Japanese Rose. Yellow Flowers in May or June. Grows 3 to 5 ft.



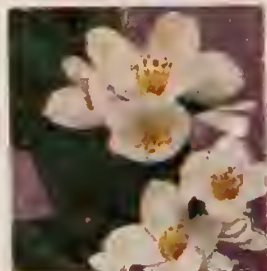
HONEYSUCKLE, RED TATARIAN (Lonicera Tatarica Rubra)—Crimson flowers, May. Grows about 8 ft.



ALTHEA, ROSE OF SHARON (Hibiscus Syriacus) —Pink flowers, July, September. Grows 8 to 12 ft.



HYDRANGEA, P. G.



SWEET MOCK ORANGE (Philadelphus Coronarius)



SPIREA VAN HOUTTEI



JAPANESE BARBERRY



SNOWBERRY



HYDRANGEA (Hydrangea Arborescens Grandiflora) —Snowball or "Hills of Snow," white flower, June-Sept. Grows 3 to 5 ft.



WEIGELA ROSEA (Diervilla)—Pink flowers, May. Grows 6 to 8 ft.



GOLDEN BELL, BORDER (Forsythia Intermedia) — Yellow flowers, March. Grows 6 to 8 ft.



CRIMSON SPIREA (Spirea Anthony Waterer) —Crimson flowers, all summer. Grows 2 to 3 ft.



BUTTERFLY BUSH (Buddleia Magnifica) —Lilac flowers, June-August. Grows 4 to 6 ft. New tops grow out every season.





FLOWERING DOGWOOD  
(*Cornus Florida rubra*) —  
Pink flowers in April.  
Grows 10 to 20 ft.



FLOWERING CRAB—Pink flow-  
ers in April or May. Grows  
10 to 15 ft.



FLOWERING ALMOND—Pink,  
double flowers in April. Grows  
5 to 6 ft.



PAUL'S SCARLET THORN—Scarlet flowers in May.  
Grows 12 to 15 ft.

These Small-growing trees are useful for specimens, as accents in shrub masses, and for grouping in the larger grounds.

**NEOSHO NURSERIES COMPANY, Neosho, Missouri**



# Facts About Fruit Trees

**W**HEN you plant an apple orchard remember that the purchase price of the trees will be small compared with the cost of bringing the orchard into profitable bearing. A tree that does not come into successful bearing will have cost not only the purchase price but also the time, labor and money expended in its care.

## Whole Root and Piece Root Trees

This is a quotation from circular 206, August, 1928, of the Missouri College of Agriculture.

"Data show that there is no material difference between the average growth and yield of Jonathan apple trees propagated from whole roots and piece roots. It rather emphasizes the fact that the grower should give attention to the matter of securing healthy, vigorous, growthy trees with good root development than to the question of whether the trees were propagated from whole roots or piece roots. No appreciable difference was observed in the character or quality of the fruit from the whole-root and piece-root trees."



Here are pictures of roots of two of our trees. One was grown from a piece root. The other was budded and therefore grown from a whole root. Can you tell which is the whole root?



"I want to say that I am mighty well pleased with the (1500 apple) trees. They seemed to be good clean stock in every way and fine trees."—Ira Olmstead, Nebraska.

"I bought of them (another nursery) after I received your trees, 1,000 peach, and while practically all of yours grew, only about  $\frac{1}{4}$  of theirs grew."—Stanley Goldy, Washington.

"My trees (185 fruit trees) arrived in excellent condition and were satisfactory in every respect. I am sure they could not be excelled by any other firm, for they were well rooted, thrifty trees, at a fair price, and I wish to thank you for sending me such nice trees. I purchased a few trees from you a few years ago and they have made an excellent growth."—Thomas W. Townsend, Alabama.

If you plant trees that have made a good free growth for their age and variety; with good root systems, clean and healthy; and in good condition, you don't need to worry about whether they are "Whole-rooted" or "Pedigreed" or "Acclimated." Here is the truth about these matters which has been proved many, many times by disinterested experiments.

## Acclimated Trees

"The section of the country from which trees are obtained is unimportant so long as the trees are well-grown, healthy and typical of the desired varieties. The growing of good trees depends upon favorable conditions and proper management in the nursery."—H. P. Gould, U. S. Pomologist, in Farmer's Bulletin 917.

Our stock is giving satisfaction in every state, in Mexico, England and other foreign countries.

"On February 12, 1925, you furnished Camilo G. Restrepo of Medellin, Colombia, an assortment of fruit plants, which were forwarded to him under special instructions. Last year when Mr. Restrepo was in New York he stated that he had obtained excellent results from your stock."—Echavarria, Incorporated, New York.

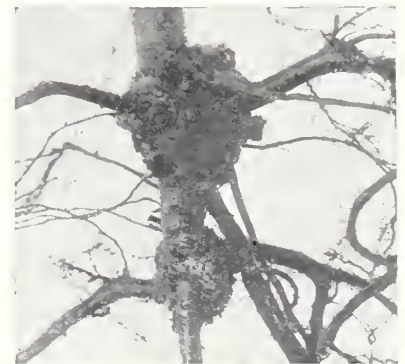
## Pedigreed Trees

A "Pedigreed" tree is supposed to be one that was propagated from a tree which bears more heavily than others of the same variety. Read the results of experiments printed in the *Encyclopedia of Practical Horticulture*. The conclusion is, "No fruit grower or nurseryman is warranted in assuming that the qualities named, size of fruit, vigor, hardiness or productiveness, can be handed down."

Experiments over 12 years at the University of Missouri were made with Ben Davis apples with this result: "We have as good yielders taken from the poor yielding parent as with the others," and "As poor yielders taken from the good yielders as from the others."

## Crown Gall

Crown gall is a bacterial disease which some claim will not prevent the tree from coming into profitable bearing. However, the official horticultural inspectors in some states will not let the planter set out such trees.



## Better Trees at Reasonable Prices

A Government Crown-gall investigator inspected 2,250 of our apple trees just as they came from the nursery row in the fall of 1927 and reported not one tree with crown-gall. That is truly amazing as another investigator said and he took a keg of our soil for experimental purposes. The experts don't know why nor do we—but we do know that our production costs are lower because we are not bothered with this common disease.

"The 80 trees I received last year were the best trees ever shipped to this part of Arizona. They made wonderful growth for the first year."—T. G. Dunham, Arizona.

"My order arrived February 18th in good order, and the commissioner passed them o. k. Are very good trees. P. S. I won't lose any of them."—L. F. Whitney, California.



# Large Returns for Little Effort or Cost



**Ranere (St. Regis) Raspberry**—Bears two crops

## Tempting Raspberries

This tempting fruit is easy to grow and is produced the second season after planting.

**CARDINAL (Purple)**—Most popular purple variety in Missouri. Hardy and drought resistant.

**CUMBERLAND (Black) (Midseason)**—The most widely planted black raspberry because of its productiveness and quality. Berries are extra large, fine and sweet.

**CUTHBERT (Red) (Late)**—The best red because of its superior quality and flavor. Berries are large, rich crimson, firm and one of the best for canning.

**KANSAS (Black) (Early to Midseason)**—Large, firm, sweet, well-flavored berries and strong, prolific canes, resistant to drought.

**LATHAM**—Rich brilliant red, large and firm berry, finest quality. Perfectly hardy, very heavy producer and most resistant to Mosaic. Originated in Minnesota.

**RANERE (St. Regis) (Red) (Everbearing)**—Bright red, small to large berries. Canes are hardy, prolific, healthy, drought-resistant. Bears very early; after old canes have borne the young canes begin bearing and produce until frost. Very thorough cultivation is necessary, otherwise berries of first crop will be small and no second crop may form. Succeeds further south than other varieties.

### CULTURAL DIRECTIONS FOR RASPBERRIES

May be planted in the fall where winters are mild, but should be mulched with straw or coarse manure for winter protection. Usually spring is the best time, especially with black or purple varieties.

Space plants 2 to 4 feet apart, in rows 5 to 8 feet apart, red varieties closer than blacks. Set an inch or two deeper than they stood in the nursery, in good rich soil; ground bone is a good fertilizer. Keep well cultivated and free from weeds and suckers. Pinch back the young canes of black raspberries when 18 to 24 inches tall. This causes side branches to grow on the canes and makes the bushes more stocky and self-supporting. The next spring cut the side branches back a third to a half.

Red raspberries require no pruning except where the canes are very tall they may be cut back to 5 or 6 feet in height. Leave not more than 4 or 5 canes per plant, except possibly with very vigorous growers. Remove and burn old canes when the crop has been picked.

The dewberry trails on the ground and the tops are usually tied to stakes or wires in the spring. In cold climate a mulch of straw or earth is necessary in the winter.

## Gooseberries and Currants

Are used chiefly in making jams, jellies, preserves, pies, tarts, etc. They contain a large amount of pectin, which is necessary for jelly making. Gooseberries are grown slightly farther south than Currants, suffering less from hot, dry weather. Bear second or third year.

### Currants

**LONDON MARKET (Midseason to Late)**—Very hardy. Medium to large, dark red, rather acid. Clusters compact.

**PERFECTION (Midseason)**—Large, bright red berry in long, compact clusters; sprightly, subacid. Vigorous and productive.

**WHITE GRAPE**—The best white currant. Large clusters of white or golden-green berries, mildly acid in flavor; slender but productive grower.

### CULTURAL DIRECTIONS

Plant in fall except where winters are severe.

If placed permanently among fruit trees the foliage is usually healthier and the plants more productive in such locations.

Set 4 feet apart in rows 6 feet apart.

Broken roots should be cut off and the tops cut back to within about 6 inches of the ground. Set a little deeper than they stood in the nursery.

### Gooseberries

**DOWNING**—The most widely grown variety; medium to large; pale green. Vigorous, and very productive; rarely attacked by mildew.

**OREGON (Champion)**—A large green berry, season late. Very productive, rarely attacked by mildew. An improved variety which combines the large size and high quality of the Downing with the productiveness and vigor of the Houghton.

### CULTURAL DIRECTIONS

The soil should be cool, well drained and very fertile. Silt or clay loams are best. Cultivate frequently during the growing season. After the first year the cultivation should be shallow.

Liberal quantities of stable manure and wood ashes will generally prove profitable.

The currant worm attacks both gooseberry and currant and should be sprayed as soon as they appear with arsenate of lead, 1 lb. powder or 2 lbs. paste to 50 gallons of water.

## Early Asparagus

Every home garden should have asparagus, one of the earliest and most wholesome vegetables, and when canned retains its flavor better than most vegetables.

**MARY WASHINGTON**—The most resistant to rust and is also superior in color, size and flavor.

Prefers a sandy loam but succeeds on nearly all kinds of soil.

Plow deep and mix in thoroughly 2 or 3 inches of well-rotted manure. Set plants 15 inches apart in rows 3 feet apart. Cover the crown or top about 2 inches.

Frequent shallow cultivation is necessary to conserve moisture and keep down the weeds.

Early in fall, cut the stalks close to the ground and remove from the patch. Cover with coarse manure 3 inches deep. Early in spring remove all but the fine manure, which should be forked into the ground.

Cut few, if any, shoots until third season.

Apply a pound of salt to about 128 square feet.



**Cumberland Raspberry**—Very Productive, Extra Good Quality

## Blackberries and Dewberries

City people do not know the really delectable flavor of fully ripe blackberries, since, even for local markets, they must be picked before they are fully ripe and they do not ripen in transit. The cultivated varieties are much juicier and larger and better in quality. They are easily grown and bear abundantly the second year.

**EARLY HARVEST (Early)**—Glossy black, medium size, good quality, not very hardy, requiring protection in the north.

**ELDORADO (Midseason)**—Medium to large, jet black, sweet and melting, very good quality; very hardy; vigorous and productive.

**McDonald (Very Early)**—A blackberry-dewberry hybrid. It is large, oblong, very good quality; drought-resistant, vigorous grower; plant in rows eight to ten feet apart. The vine trails on the ground the first season like the dewberry but grows upright the next year. Grown in Missouri, Oklahoma and Texas. Not hardy and is self-sterile. Plant every fourth row with Lucretia Dewberry or Early Harvest to develop good berries.

**LUCRETIA (Very Early)**—The best known and most widely planted dewberry. The berries are large, long, firm and good quality, very sweet if left on the vines a day or two after they would be picked for shipping.

### CULTURAL DIRECTIONS FOR BLACKBERRIES

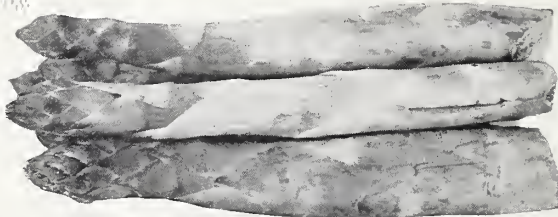
Where winters are mild plant in the fall but mulch with straw or coarse manure for winter protection.

Plant 3 feet or more apart in rows 5 feet or more apart. Set an inch or two deeper than in the nursery row and cut back the tops to 6 inches or less.

Cultivation should begin as soon as the plants are set and continued every week or two until a month before freezing weather. Pinch off the tops of the young canes when at a height of 2½ feet—3 feet. Immediately after picking, old canes should be cut out and burned and also all but 3 or 4 new canes to each plant.

A wire trellis is often used. Posts are set 15 to 30 feet apart in the row and the canes tied to a wire about 2½ feet above the ground.

### Asparagus—A spring tonic





# Home Grown Strawberries Taste Best

Strawberries are the first fruit to ripen in the spring. Fresh or preserved, they are delicious and healthful, and help out on the grocery bill. Like blackberries and raspberries, they reach their highest quality when fully ripened before picking, which is not the case when grown for market. They do well on almost any soil if well drained, deeply worked and well fertilized. Standard varieties produce good crops the next spring after planting.

## Standard Varieties

**AROMA (Midseason to Late)**—A richly colored, large berry, deliciously aromatic in flavor. Ripens over a long season. Its chief merits are resistance to disease, productiveness and attractiveness, firmness and high quality of the fruit. Best adapted to silt or clay soils. 125,000 crates, 24 quarts each, were shipped out of Neosho in 1922, practically all Aroma. They were sent to New England, Canada, Colorado, Texas and numerous other states.

**(SENATOR) DUNLAP (Midseason)**—One of the most widely planted varieties. Noted for dependability and productiveness. A medium sized handsome berry, deep glossy red, exceedingly juicy, very good quality. Plants are very hardy and drouth-resistant. Adapted to any type of soil and wide variation in climate.

**OZARK (Early) (Extra Early)**—Dark red, excellent quality berry, large for their season. The plant is vigorous and productive.

The Everbearing will produce the first summer and fall. The second year they bear in the spring and continue fruiting until severe frost comes. They are particularly fine for the home garden. Fifty to one hundred plants set about a foot apart in beds 4 to 5 feet wide will supply a small family with berries throughout the season.

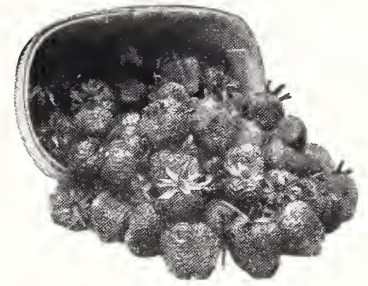
All the following varieties are self-fertile and can be planted alone.

## Everbearing Strawberries

**CHAMPION**—This is a very heavy fruiter of medium-large choice berries. Begins bearing about three months after plants are set, and as the season advances the berries increase in number and size; berries dark red, sweet, fine flavor, evenly colored; firm and will stand rough handling.

**MASTODON**—Now holds first place among the everbearers. Produces great quantities of the largest berries of any of the everbearing varieties, and is a strong grower and heavy fruiter. Successful both for home gardens and as a commercial variety.

**PROGRESSIVE (Everbearing)**—Bear first summer and fall, second year in spring and fall. The berries are medium size, dark crimson, and delicious in quality. The plant is unusually healthy, vigorous, very hardy and productive. It needs a rich soil amply supplied with moisture. If an early frost catches one set of blossoms, another is formed immediately. The first season the blossoms and runners should be cut off until about the middle of July.



## CULTURAL DIRECTIONS FOR STRAWBERRIES

Cover the ground with well-rotted manure—a wheelbarrow load to each 100 square feet. Plow or dig the ground and pulverize deeply and thoroughly.

Do not plant in ground that has just been in sod; if you do, the white grubs will probably destroy the plants.

Cut back the roots to about 4 inches and put them in water.

Be particularly careful to set plants the correct depth, the crowns just level with the surface, and firm the soil about the roots.

Cultivate about once a week, and only an inch or two deep, but not when the ground is wet.

Keep the blossoms picked off the first season on standard varieties and until about July 1st on Everbearers.

The hill system produces the largest and finest berries. The plants are set 18 to 24 inches apart each way, which allows cultivation both ways, or 15 to 18 inches between plants in rows 24 to 30 inches apart. In either case all runners must be cut off as soon as they appear.

**BERRIES SAVE THE DAY.** Although April, May and June, 1930, were the driest in 72 years, McCracken County, Kentucky, had a berry crop worth \$525,000



Senator Dunlap—Fine for Home Use.



The Right and Wrong Way to Set Strawberry Plants.  
A—Too Shallow. B—Too Deep. C—Just Right

## Delicious Rhubarb (Pieplant)

Is hardy in all parts of the temperate zone. Comes at an early season when most needed and appreciated.

Plant in fall or spring, 3 feet apart in rows 4 feet apart.

The crowns should be barely covered with dirt. If planted deep they are almost sure to rot during the hot weather of the first season.

Thorough cultivation should be given through the summer and liberal applications of manure every winter.

In gathering the leaf stalks, the base of the stalk should be pulled out, for if broken off at the surface of the ground the rotting of the short piece left causes "stem rot."

## Horseradish

The best quality and largest size is produced in a deep loam, moderately rich, well supplied with humus; good drainage and a fairly open subsoil are essential.

Plant about 18 inches apart in rows 3 feet apart and cover 2 or 3 inches deep. Cultivate during summer as often as needed to keep down weeds and conserve moisture.



# Beautiful Grounds Need These Plant Materials

## Easily Grown Spring Bulbs

Plant after frosts are over, in rich, well-drained soil. It helps to set each bulb on a handful of sand. Don't put manure in contact with bulbs.

**CANNAS** are most effective when planted in masses with varieties of a kind grouped together, tall growers at the back, lower growers in front.

Set 4 to 5 inches deep, 18 to 24 inches apart. For a round bed 7 ft. in diameter, set 18 inches apart, one in the center, six in the inside row and twelve in the outside row.

**GLADIOLUS** are easily grown, have a great range of color and as cut flowers keep for a week. They mature in about 90 days so that successive plantings provide blooms from July till frost.

Plant in beds, in rows, or in clumps among perennials. Plant 2 to 4 inches apart, 4 to 5 inches deep in heavy soil and 7 to 8 inches deep in light soil.

**DAHLIAS** should be set about 4 inches deep and 4 to 5 ft. apart. When they have made their first leaves cut away all but one or possibly two strong shoots. When a foot high tie to a stake. Side shoots can be made to put forth by pinching off the top.

## Bulbs for Fall Planting

Plant in October or November in deep, well-drained rich soil. Hyacinths, Tulips, Narcissus, Jonquils, are set 4 to 6 inches apart. Cover Tulips 4 inches deep; other kinds 5 inches. Put a handful of sand under each bulb when planting. Mulch with straw or leaves 4 to 6 inches after ground is frozen. Remove mulch carefully in spring before warm weather.

## Indoor Winter Flowers

With Hyacinths and Narcissus use a four inch pot or pan for one bulb and a six inch for three bulbs. Fill with good loam and set the bulbs so they are just covered with soil. Put them in a dark box in a cool cellar in a dark corner for six weeks or more until the pot is well filled with roots. Keep the dirt moist.

Place them in a warm sunny window in a temperature of about 70 degrees and keep them well watered. After the flowers are opened they will last longer if moved to a cooler, less sunny window.

With Crocus and Tulips, after potting put outdoors and cover them with earth until freezing weather. They should then be stored in the cellar and handled like Hyacinths and Narcissus.

## Shrubs for Forcing in Water

The following varieties are most easily forced. Red Bud, Japan Quince, Deutzia Gracilis, Golden Bell, Globe Flower (Kerria Japonica), Fragrant Bush Honeysuckle, Mock Orange, Flowering Plum (Prunus Triloba), and Pussy Willow. Fruit trees may also be forced but respond slowly.

Cut branches 12 to 15 inches long with plump buds any time after February. Place them in a receptacle that holds plenty of water. Change water every third day. Small pieces of charcoal will help to keep the water sweet.



This formal garden on the grounds of Mr. and Mrs. Paul Crawford in Newton County, Missouri, was designed by our Mr. Woodard. The bird bath, the flagstones for the walk, the pool, evergreens, shrubs, perennials and bulbs were supplied and put in by the Neosho Nurseries in the spring of 1930. The picture was taken about three months later. The design for the summer house was also supplied by us.

## Spring Brilliance with Iris

Iris are often called hardy orchids because of the richness and beauty of the flowers. They vary in height from 1 to 3 feet, are very easy to grow, and blossom in exquisite shades of many beautiful colors. The Japanese blossom after the German varieties are through flowering.

Iris will thrive in spite of neglect where other flowers would fail, but does best on fertile well-drained soil. They may be planted in the spring but give better results and more bloom the first season if set in the fall from August until the first frost. Put the crown of the root about two inches below the surface and press the dirt firmly about it. If planted too deep they will rot. If planted in the fall, they should be well mulched with loose soil, leaves or coarse manure and this should be raked off in the spring. For planting along borders or in masses they are spaced 8 to 10 inches apart. If planted in rows set 18 inches apart in rows 3 feet wide.

See price list for varieties.

## Peonies

Peonies rival the rose in perfection of form and color. The flowers are lasting and some varieties are fragrant. They are very free from disease and insect pests, perfectly hardy and easily grown. All they ask is a good soil and a winter mulch. The blooms increase in size and number with age. They are permanent and do not have to be moved or transplanted. They are used singly, as specimens, in massed beds, or in perennial or shrub borders.

Peonies should be planted in the early fall, from 18 to 36 inches apart, and set so that the eyes will be not more than two to three inches below the surface of the soil. Bone meal is the best fertilizer. Leave at least three leaves on the stalk when you cut the bloom. See price list for varieties.

## Lilies-(Lilium)

**LILIES** are best planted in the fall. They prefer a well-drained sandy loam enriched with leaf mold peat and well-rotted manure. Cover with soil three times the largest diameter of the bulb except the Madonna, which should be set only two inches deep. Planting distance, 12 to 18 inches apart. Put a handful of sand under each bulb. After the ground freezes, mulch with straw or leaves, 4 to 6 inches deep. Gold Banded and Regal Lily bulbs are not ready for delivery until November 1st. Where winter is likely to come before this date, cover the ground with 2 feet or more of manure, leaves or straw.

**GOLD BANDED LILY** (*Lilium auratum*)—Flowers of 6 petals. White spotted with crimson, yellow midribs and red anthers. Stems are 3 to 5 ft. tall.

**MADONNA LILY** (*Lilium candidum*)—Waxy white flowers with yellow anthers on 2 to 4 ft. stems.

**REGAL LILY** (*Lilium regale*)—Large white flowers tinged with yellow at the base both inside and outside. The midribs are purple and the anthers reddish brown. Stems are 3 to 6 ft.

**LILY OF THE VALLEY** (*Convallaria Majalis*)—The deep green leaves and bell-shaped white flowers make a pleasing combination. Clumps will give 8 or 10 sweet scented blooms the first season, in May. Thrives best in the shade.



Front view of our plant at Neosho.





JAPANESE IRIS  
Bloom after German Iris



HYACINTHS  
Gorgeous colors, indoors or out



TULIPS  
Easily grown. Plant in fall.



PEONY  
*Edulis Superba*



FOR-GET-ME-NOT  
*Myosotis Palustris*

*Let Us Help You Also to Grow Lovely Flowers*

**NEOSHO NURSERIES COMPANY, Neosho, Missouri**





DAHLIA—Cactus



DAHLIA—Decorative



DAHLIA—Show



*You Can Have Beautiful Dahlias and Glads For Just A Little Trouble and Expense*

**NEOSHO NURSERIES COMPANY, Neosho, Missouri**



# Delightful Flowers for Gardens or Rockeries



These plants will bloom for you abundantly the first summer and in succeeding years without replanting, although some varieties need to be taken up and the roots divided after several years. Plant in masses bordering driveways, fences or the lawn; along shrub borders, or in the garden.

Perennials are especially desirable in front of shrub borders with taller growers in back and lower varieties in front. Let the back line be broken with a little shorter plants at some points.

Clay soil should be made lighter with manure and sand.

It pays to mix in thoroughly well-rotted manure or bone-meal in good soil that has been deeply dug.

Set plants a little deeper than they stood in the nursery and spread out the roots. Plants moved in full growth should always be cut back.

Cultivate during the growing season to preserve moisture, to aerate the soil, and to keep down weeds.

In dry spells, water thoroughly at intervals rather than frequent sprinklings.

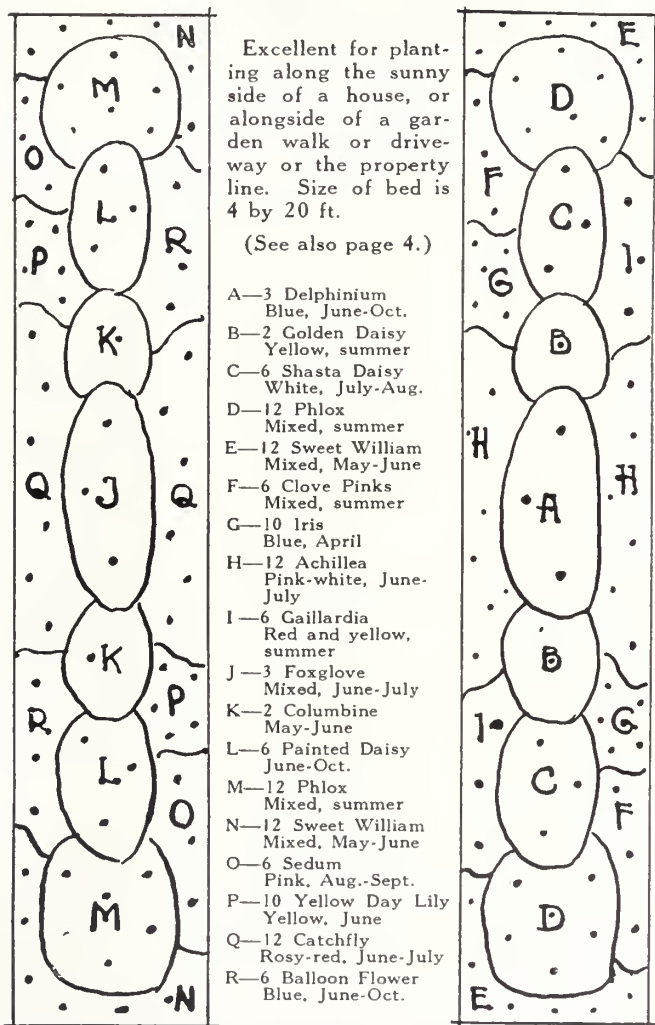
Remove and burn old flowers, seed pods and dead leaves. Apply a covering of manure in the fall and mix it into the soil in the spring. Most perennials can be planted in the fall if early enough so that the roots can become established before cold weather.

Varieties that bloom late in the season are better transplanted in the spring.

## Hardy Perennial Plants

Name	Variety	Color	Season	Height	Planting Distance
*Achillea (Milfoil or Yarrow)....	Mixed.....	Pink-White..	June-July....	18 in.	18 in.
Alyssum (Rock Madwort).....	Saxatile Compactum..	Yellow.....	April-May...	10 in.	6 in.
†Asters					
Michaelmas Daisy....	Feltham Blue.....	Blue.....	August.....	36 in.	24 in.
Novae-Angliae.....	Roseum Superbum...	Red.....			
Baby's Breath (Gypsophila).....	Paniculata.....	White.....	July-Sept....	24-36 in.	12 in.
Balloon Flower (Platyodon).....	Grandiflorum.....	Blue.....	June-Oct....	12-36 in.	15 in.
Bellflower (Campanula).....	Carpatia.....	Blue.....	June-Oct....	8 in.	6 in.
Canterbury Bells (Campanula).....	Medium.....	Mixed.....	July-Aug....	24-36 in.	24 in.
Catchfly (Lychnis).....	Viscaria Splendens...	Rosy-Red...	June-July....	18-24 in.	15 in.
*Chrysanthemum (Double).....	Hardy Garden.....	Mixed.....	Sept.-Oct....	36 in.	24 in.
†Columbine (Aquilegia).....	Caerulea.....	Blue.....			
	Chrysantha.....	Yellow.....	May-June...	24 in.	20 in.
	Mixed.....	Various...			
Corflower Aster (Stokesia).....		Lavender...	July-Oct....	18-24 in.	15 in.
Delphinium (Larkspur).....	Belladonna.....	Lt. Blue...			
	Bellamosa.....	Dk. Blue...	June-Oct....	48 in.	30 in.
	Hybrids.....	Mixed.....			
English Daisy (Bellis).....	Perennis.....	White.....	Apr.-June...	3-6 in.	6 in.
False Indigo (Baptisia).....	Australis.....	Blue.....	June.....	3-5 ft.	20 in.
*Forget-me-not (Myosotis).....	Palustris.....	Blue.....	Summer....	8 in.	6 in.
†Foxglove (Digitalis).....	Giant Hybrids.....	Mixed.....	June-July....	36 in.	30 in.
*Gaillardia (Blanket Flower).....		Brownish-Red & Yel.	Summer....	24 in.	12 in.
*Golden Daisy (Coreopsis).....	Grandiflora.....	Yellow.....	Summer....	24 in.	24 in.
†Golden Glow (Rudbeckia).....	Double.....	Yellow.....	July-Aug....	3-5 ft.	25 in.
Grass, Ornamental... ..	Eulalia Japonica...			5-7 ft.	36 in.
†Hollyhocks... ..	Double.....	Mixed.....	July-Aug....	3-5 ft.	30 in.
Moss Pink (Phlox Subulata).....	Alba.....	White.....	Apr.-May...	2-6 in.	6 in.
	Rosea.....	Red.....			
†Painted Daisy (Pyrethrum).....	Hybridum.....	Mixed.....	June-Oct....	18 in.	10 in.
Perennial Sweet Pea (Lathyrus Latifolius).....	Albus.....	White.....	July-Aug....	4-8 ft.	6 ft.
	Splendens.....	Pink.....			
*Phlox Paniculata.....	Mixed.....	Various.....			
Phlox Paniculata.....	Miss Lingard.....	White.....			
	Mrs. Chas. Dorr.....	Lavender...			
	Richard Wallace.....	White, Crimson Eye...	Sum..	24 in.	15 in.
	Rheinlander.....	Salmon, Claret Eye...			
	Rijnstroom.....	Bright Crimson Pink...			
	Jules Sandeau.....	Watermelon Pink...			
	Thor.....	Salmon Pink...	Sum..	15 in.	12 in.
	Beacon.....	cherry red.....			
†Pinks (Dianthus Plumarius).....	Clove Pinks.....	Mixed.....	Summer....	10 in.	12 in.
†Plaintain Lily (Funkia).....	Caerulea.....	Blue.....	July.....	24 in.	15 in.
Sedum (Stonecrop).....	Spectabile.....	Pink.....	Aug.-Sept...	12 in.	12 in.
	Stolonifera.....	Purplish Pink..	July-Aug....	6 in.	12 in.
*Shasta Daisy (Chrysanthemum Maximum).....	Alaska.....	White.....	July-Aug....	24 in.	18 in.
*Sweet William (Dianthus Barbatius).....	Mixed.....	Various.....	May-June...	18 in.	12 in.
†White Rockcress (Arabis Alpina).....		White.....	April-May...	6-8 in.	6 in.
Yellow Day Lily (Hemerocallis).....	Flava.....	Yellow.....	June.....	30 in.	12-18 in.
Spirea Astilbe Gladstone (white), America (pink); blooms June and July. Grows about 18 inches high on erect stalks, plant about 2 feet apart.					
†Endure Partial Shade.					

## How to Arrange Perennials



Excellent for planting along the sunny side of a house, or alongside of a garden walk or driveway or the property line. Size of bed is 4 by 20 ft.

(See also page 4.)

- A—3 Delphinium Blue, June-Oct.
- B—2 Golden Daisy Yellow, summer
- C—6 Shasta Daisy White, July-Aug.
- D—12 Phlox Mixed, summer
- E—12 Sweet William Mixed, May-June
- F—6 Clove Pinks Mixed, summer
- G—10 Iris Blue, April
- H—12 Achillea Pink-white, June-July
- I—6 Gaillardia Red and yellow, summer
- J—3 Foxglove Mixed, June-July
- K—2 Columbine May-June
- L—6 Painted Daisy June-Oct.
- M—12 Phlox Mixed, summer
- N—12 Sweet William Mixed, May-June
- O—6 Sedum Pink, Aug.-Sept.
- P—10 Yellow Day Lily Yellow, June
- Q—12 Catchfly Rosy-red, June-July
- R—6 Balloon Flower Blue, June-Oct.

"I had such a grand Perennial Bed last year, all to your credit, that I look forward to your book again."—Mrs. Theo Rigg, Ohio.

"I am sending you this order at a figure some five dollars higher than that offered by a competing firm. Last spring we purchased a lot of California Privet from you and it is because of the high quality of your product that I am sending this to you."—William O. Jones, Illinois.



# Home-Grown Peaches are Unequaled in Flavor



J. H. Hale Peaches the Third Season at Keremeos, B. C. The trees came from Neosho Nurseries.

Fresh, ripe, home-grown peaches over a season of nearly three months are a most delicious fruit that may be had at little expense. You can never know how good peaches taste until you pick them fully ripened from your trees. They can be grown almost as far north as apples and will succeed farther south. They will do well on a wide range of soil types, even moderately heavy clay loams and clay, but the soil must be well drained. The soil should be moderately fertile. Peaches will not do well on hard impervious clay nor on very alkali soils. Plant largely of midseason and late varieties, but include enough of the earlier and very late kinds to provide an ample supply throughout the season.



## Our Peach Trees in New Mexico

Farmington, New Mexico,  
October 16, 1930.

"You may remember we ordered 120 peach trees from you last spring. I just thought you might be interested in having a report on them. One of them never came out. One other died for some reason this summer. The others have all grown and have done remarkably well. I am enclosing a picture of the orchard, which you might like to use. The trees were pruned back according to your instructions and many of them now are five feet tall. Some of them have branches six feet tall. The other things that we got have done equally well."—C. C. Brooks, Supt. Navajo Methodist Mission School.

## PEACH TABLE

Varieties in Seasons	Flesh	Size	Quality	Days Ahead of Elberta
<b>Very Early:</b>				
Mayflower .....	White—Semi-cling	Medium	Fair	50
<b>Early:</b>				
Greensboro* .....	White—Semi-free	Medium	Fair	40
Arp (Beauty) .....	Yellow—Semi-cling	Medium	Good	38
Erose (Early Rose) .....	Red and White—Cling	Medium	Very Good	35
Carman* .....	White—Semi-free	Large	Good	24
<b>Midseason:</b>				
Alton .....	White—Semi-free	Large	Good	18
Hiley .....	White—Free	Large	Good	15
Champion* .....	White—Free	Medium	Very Good	15
Illinois .....	Yellow—Free	Large	Very Good	15
Rochester .....	Yellow—Free	Large	Very Good	15
Belle (of Georgia)* .....	White—Free	Large	Very Good	8
J. H. Hale .....	Yellow—Free	Very Large	Very Good	5
Early Elberta .....	Yellow—Free	Very Large	Good	3
Elberta Cling .....	Yellow—Cling	Very Large	Good	2
Elberta .....	Yellow—Free	Very Large	Good	2
<b>Late:</b>				Days After Elberta
Crosby** .....	Yellow—Free	Medium	Very Good	5
Late Crawford .....	Yellow—Free	Very Large	Very Good	8
<b>Very Late:</b>				
Krummel .....	Yellow—Free	Large	Good	30
Heath Cling* .....	White—Cling	Large	Good	40

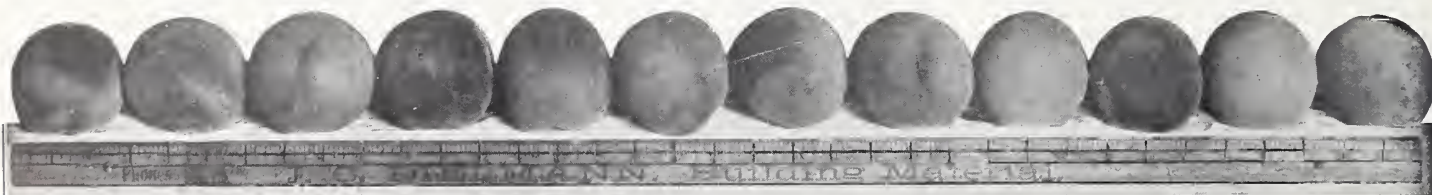
\*Hardest varieties.

## RIPENING DATES OF ELBERTA

Conn. ....	Middlesex and New Haven Counties .....	Sept. 5-15
N. Y. ....	Southeast .....	Sept. 1-10
N. Y. ....	West .....	Sept. 10-25
N. J. ....	S. W. Central .....	August 20-25
N. J. ....	East Central .....	Aug. 25-Sept. 10
Ohio .....	South .....	Aug. 10-Sept. 1
Ohio .....	North .....	Aug. 25-Sept. 25
Indiana .....	Southeast .....	August 25-30
Indiana .....	Central .....	September 15
Illinois .....	South .....	August 10
Illinois .....	East Central .....	August 25-30
Illinois .....	West Central .....	September 1-15
Mich. ....	Southwest .....	September 5-15
Pa. ....	Southeast .....	Aug. 15-Sept. 15
Md. ....	East .....	July 30-Aug. 10
Md. ....	West .....	August 10-20
W. Va. ....	Northeast .....	Aug. 20-Sept. 5
N. Car. ....	Central .....	July 20
Georgia .....	Central .....	July 1-10
Ky. ....	North Central .....	August 10-15
Ala. ....	Southwest .....	July 1
Tenn. ....	Southeast .....	July 25
Ark. ....	Southwest .....	July 10
Missouri .....	Oregon County .....	July 28-Aug. 8
Missouri .....	Howell County .....	August 10-15
Kansas .....	Northeast .....	Aug. 20-Sept. 10
Okla. ....	Central .....	Aug. 1-20
Texas .....	Northeast .....	July 4-15
Idaho .....	Canyon County .....	Aug. 28-Sept. 12
Colo. ....	Mesa County .....	September 1
N. Mex. ....	Southeast .....	August 1-15
Wash. ....	South Central .....	August 15-20
Oregon .....	Northeast .....	August 25-30
Cal. ....	Solano County .....	July 24-Aug. 8
Cal. ....	Amador, Eldorado, Placer Counties .....	Aug. 4-Sept. 4

## A Yard of J. H. Hale Peaches

Mr. Steves of San Antonio, Texas, sent us this picture of fruit grown from Neosho Nurseries trees and wrote us: "These peaches are not the largest—one I had weighed 16 ounces and it was solid and the finest flavor of any peach I have ever eaten. According to my idea, it is the finest peach that has ever been grown in this section."





# A Delicious Fruit at Little Expense

**ALTON (White Semi-Freestone) (Mid-season)**—A large, handsome white-fleshed peach of good quality. Tree is hardy and productive. Blooms early. Grown mostly in Middle West and South.

**ARP BEAUTY (Yellow Semi-Clingstone) (Early)**—The earliest good yellow peach. Round-oval in shape, heavily blushed with red, excellent quality. Deserves a place in every home orchard. Hardier in bud than the average.

**BELLE OF GEORGIA (White Freestone) (Midseason)**—An unusually handsome large peach. Creamy - white blushed with red, good quality. Tree is large, open headed, hardy. Prefers a Southern or Semi-Southern climate.

**CARMAN (White Semi-Freestone) (Early)**—A general favorite as it succeeds in a great variety of soils and withstands trying climates. Tree is an excellent grower, bears abundantly, remarkably hardy in wood and bud. Fruit is brilliant red, splashed with darker red on creamy-white background; good quality for its season.

**CHAMPION (White Freestone) (Mid-season)**—An exceptionally high quality, attractive, hardy white peach. It has a peculiar honeyed sweetness. Not a good shipper but ideal for home use and local markets.

**CROSBY (Yellow Freestone) (Late)**—Notable for hardness of tree and bud. Tree is rather small grower but unusually vigorous, healthy and productive. Fruit is medium size, not attractive, but very delicious for dessert or culinary use.

**EARLY ELBERTA (Yellow Freestone) (Midseason)**—Very large, high quality, lemon-yellow peach; originated in Utah. Flesh is fine grained, sweet; for home use and local market. Tree is a strong grower of Elberta type.



**Erose—(Early Rose)—The Best Early Peach.**

**EROSE (Early Rose) (Red and White Clingstone) (Early)**—There are several varieties under the name Early Rose. To distinguish ours we are renaming it Erose. This peach originated in Georgia and was introduced by us. It has a delicious sweet flavor, red flesh, medium size and ripens about a month earlier than Elberta. The tree is a medium grower and can be planted closer than such large growing sorts as Belle of Georgia and Carman. Bears young. Most early varieties lack in quality which makes Erose even more appreciated.

**EARLY ROSE**—(Name changed to Erose. See above.)

"We have on the Ireland Fruit Farm about 300 of your peach trees that are two years old. We are very proud of these."  
—E. R. Spencer, Lebanon, Illinois.

**J. H. HALE (Yellow Freestone) (Mid-season)**—This variety was discovered by J. H. Hale over 20 years ago. He sent the fruit from Georgia in an ordinary barrel packed like potatoes to Neosho, where they arrived in splendid condition. Very large in size; beautiful yellow overlaid with red, and has a firm, fine grained yellow flesh of good quality. It colors up a week before maturity, ripens 3 to 7 days ahead of Elberta. The tree is more stocky than the Elberta. It should be planted with some other variety for pollination.

**HEATH CLING (White Clingstone) (Very late)**—The best of all peaches to preserve or pickle whole. The tree is unusually large, healthy and hardy. Exceptionally good keeper.

**HILEY (White Freestone) (Midseason)**—Hiley is the earliest commercial freestone white-fleshed peach; better in quality than most of its season; very closely resembles its parent, Belle of Georgia. Flesh is firm, sweet, good quality; a very good shipper.

**ILLINOIS (White Freestone) (Midseason)**—A very handsome large peach of good quality, sweet and juicy. Ripens about same season as Champion. We grew 500 trees for a Missouri customer who considers them the best variety for local market. Not as widely adapted as the Champion.

**KRUMMEL (Yellow Freestone) (Very Late)**—A large peach, one side a little larger than the other. A rich golden yellow, blushed with carmine. Flesh is yellow, tinted red at the pit. Good quality. A good keeper and shipper. The tree is hardy, healthy and a strong, vigorous grower. It is harder and more productive than Salway. "The latest peach grown at the station. Ripened October 5th."—Ohio Exp. Station.

**LATE CRAWFORD (Yellow Freestone) (Late)**—Its high quality, scarcely equaled in richness of flavor, its adaptability to a wide range of soil and climatic conditions make this old variety exceptionally desirable for the home garden. Fruit large and handsome.

**MAYFLOWER (White Semi-Clingstone) (Very Early)**—Earliest peach to ripen. Good size and quality for such an early variety. Ripens unevenly through a long period.

**ROCHESTER**—Large, yellow freestone with very sweet, delicious flavor. Keeps and ships well. Strong grower, hardy; bears young and regularly.



## Look at These Handsome Trees

This picture shows peach trees in our Nursery. Of course, you cannot see a most important part—the roots, but Neosho trees are justly noted for splendid root systems.

**ELBERTA (Yellow Freestone) (Midseason)**—The most widely and extensively planted commercial peach. Very large golden-yellow, nearly covered with crimson on the sunny cheek; flesh is firm, rich yellow, fair quality. Tree is very productive, yielding large quantities of uniform, highly colored fruit, mediocre in quality; moderately hardy in wood and bud, but its adaptability to all soils, its prolific bearing, large size, splendid shipping qualities, and the tendency to color well before fully mature have made it the great market peach.

**ELBERTA CLING (Yellow Clingstone) (Midseason)**—The best yellow clingstone; especially fine for canning, preserving and pickling; large, yellow, round, good for dessert.

**GREENSBORO (White Semi-Freestone) (Early)**—A leading early white peach, owing to its showy fruits and its large, vigorous, healthy trees which are early-bearing and exceptionally prolific. It thrives in a great variety of soil and climates. Somewhat inferior in quality; a good shipper and keeps long.



**Peaches from Louisiana from Neosho trees. Customer has sent us several orders since.**



# Plums and Prunes Pay the Good Gardener



Endicott (Mammoth Gold) Plums.

**ABUNDANCE (Early)**—A pinkish-red Japanese plum. Medium size. Flesh is yellow; sweet, aromatic; quality good to very good. Tree is a vigorous grower, large, hardy and very productive. Adaptable to wide diversity of soils and climates, bears heavily and regularly. Should be picked before quite ripe; dropping and rot are thus avoided and flavor is better. Blooms early.

**AMERICA (Midseason)**—An improved Gold, originated by Burbank; a beautiful waxen yellow, with currant-red cheek. Flesh is yellow, juicy, sweet, very good for cooking. The tree is a large, strong grower, spreading, open top; extremely hardy and productive, and succeeds where others fail. Midseason bloomer.

**BRADSHAW**—Medium to large; dark purplish red with yellowish dots and blue bloom. Flesh greenish-yellow. Good quality. Flavor rich, sweet. Midseason. Blooms very late.

**BURBANK (Midseason)**—A dark red, roundish Japanese plum; better quality and shipper and less susceptible to brown rot than Abundance. The flesh is a deep yellow, firm, very juicy, aromatic, and sweet; quality good to very good. The tree is healthy, not quite as fast a grower as Abundance; flat, spreading top. A week later than Abundance. Blooms very early.

**FRENCH DAMSON (Late)**—Largest and best quality of the Damsons. Dull purplish-black color. Flesh sweet, good quality. Tree large, hardy and productive. Ripens a little later than Shropshire. Blooms midseason.

**SHROPSHIRE DAMSON (Late)**—The most widely planted Damson. Oval shape; purplish-black covered with a thick bloom. Tree is strong, vigorous grower, quite hardy. A standard for productivity and reliability in bearing; fair for eating when fully ripe; one of the best for culinary purposes. Fruit ripens late over a long season. Blooms late.

Plums are especially fine for eating fresh, for jellies, preserves and marmalade and unexcelled for canning and drying. Some varieties will thrive wherever apples or peaches can be grown. Most of them bear the third or fourth year. One of the best fruit trees for the home garden. In the chicken yard, they will provide shade and receive fertilizer, as well as protection from insects. (See page 40.)

**ENDICOTT (Midseason)**—Endicott combines the high quality of the European with the hardiness and adaptability of the Japanese. One of the sweetest, juiciest plums. It averages very large in size, roundish, slightly flattened at the end; dark garnet-red, with a faint bloom. Flesh is a light yellow, firm and rich. Mr. Endicott, the originator, of Southern Illinois, wrote of this plum:

"I have fruited it side by side with Red June and Gold, and I think it is worth more than both of them put together. In fact, it is the best plum I have ever seen for our low elevation and changeable climate. It generally ripens here about the Fourth of July. By thinning and spraying them with self-boiled lime-sulphur, I have grown them two inches in diameter."

**ITALIAN PRUNE (Late)**—The Italian, or Fellenburg, is the largest, best and one of the most widely grown of the prunes. Long, oval shape, rich, purplish-black; almost dark wine color, overspread with a thick blue bloom. Very large size, flesh yellow, aromatic, juicy, sweet, very good to best quality. Fine flavor for dessert and cooking. Keeps and ships well. Succeeds everywhere except in the more Southern states. Late bloomer.

**LOMBARD (Midseason)**—The most widely planted plum in America, noted for hardiness and dependability; adaptable to widely different soils and climates, unusually healthy, very productive, regular bearer and fruit is comparatively free from attacks of the curculio. Medium to large size, oval shape; purplish-red or reddish-violet color, overspread with a thin bloom; for cooking, canning and preserving. Blooms midseason.

**OMAHA (Early)**—A large, round, coral-red plum. Flesh is yellow and sweet. Strong, vigorous grower, hardy and productive.

**REINE CLAUDE (Green Gage—Midseason)**—A large, roundish, oval plum; light greenish-yellow. Firm, sweet, very juicy, aromatic; good to very good in quality. Tree is of medium size and vigor, productive, and hardy. Thrives best on light, sandy soils. Blooms midseason. Should be in every home garden.

**RED JUNE (Early)**—A large garnet-red, heart-shaped Japanese plum, pointed at tip. Flesh is light yellow, sweet, peculiarly aromatic; quality fair to good. Tree is a large, vigorous, spreading grower; very hardy and productive. **Should be planted with other varieties for the purpose of cross-pollination.** Abundance and Burbank are good pollenizers for this variety. Usually ripens a week before Abundance. Blooms early.

**SATSUMA**—Large, dark brilliant red. Flesh dark red, good quality. Flavor rather acid. Ripens medium to medium late. Sterile. Not as hardy as Bradshaw. Tree is spreading. Blooms early.

**WICKSON**—Large to very large, dark red. Flesh yellow, quality good. Flavor sweet. Season medium. Tree upright grower. Blooms early.

**WILD GOOSE (Very Early)**—An old-time favorite; bright red; medium size; flesh is yellow, very sweet, quality fair to good. Very large, strong, flat-topped grower; hardy. Good shipper and keeper; comparatively free from brown rot and curculio. The Wild Goose is a native plum and **should be planted near other plums of this class for pollenization.** Blooms medium early.

## Hansen's Hybrid Plums

Originated by Prof. Hansen of the South Dakota Agricultural College. They are exceptionally hardy and also withstand extremely hot, dry weather, bear very young and heavily and are the first plums to ripen. Good for dessert and cooking.

**HANSKA**—About 1½ in. in diameter, bright red. Flesh reddish; flavor delicious. Very good quality. Tree strong, upright, vigorous.

**OPATA**—1 in. or more in diameter, dark red. High quality. Bears second year. Often grown in bush form.

**SAPA**—Dark glossy purple. Flesh purplish-red. Fine flavor. Bears early and heavily. Tree is spreading and handsome.

**WANETA**—2 in. in diameter. Delicious quality. Regarded as the best of the Hansen hybrids.



America—a Beautiful Golden Plum.

## Compass Cherry-Plum

**COMPASS CHERRY-PLUM**—Very hardy, bears young, often second year. Fruit is nearly inch in diameter, bright red; sweet, juicy and fine flavor.



# Some People Make Money Growing Fruit



This picture shows part of 1,565 bushels of Delicious Apples from 180 trees 11 years old owned by the Muskingum Fruit Farm of Ohio. Beginning with 1917 they have purchased six orders from us totaling nearly \$1,200.00. We sent them 2,510 trees in the spring of 1929.

One of the most striking instances of profit from fruit growing is that of the Big Four Orchards at Nashville, Arkansas. They planted 250 acres of Neosho Nurseries peach trees in 1920 and the president, Mr. B. L. Thompson, wrote us April 16, 1927, as follows:

"It has paid the stockholders their money back that was put into it to start with and 45% besides."

No doubt you have read of many instances of good profit with other kinds of fruit also. We could tell you about plenty of them. But the question is, "How is it done?"

One man succeeds where another—with equally good opportunities—fails. Management is the main factor.

There is a fine young orchard near Neosho of our trees, while across the road there is nothing left of an orchard planted at the same time. That was due to poor trees at the start.

Compare the average annual cash returns per acre over 5 years of these two Michigan orchards:

	Trees 13 to 20 yrs. old	21 to 35 yrs. old	Over 35 yrs. old
A. . . . .	\$111.50	\$151.25	\$334.50
B. . . . .	21.30	.....	48.00

These orchards are a short distance apart, contain the same varieties and the trees are about the same average age. The difference in results lies in management and location.

## Factors That Govern Profits

(1) **A GOOD SITE**—That is a location which is not subject to severe spring frosts—ground that is higher than the adjacent land and has good air drainage. That means regularity of production. We can show you orchards in valleys and in pockets which never have any fruit, or so little as to amount to nothing.

(2) **A GOOD SOIL**—This calls for fertility and depth. It means heavy yields and lower cost of production.

(3) Next in importance is production of a high percentage of Grade A fruit which commands the best price. That means size and freedom from blemishes. Size is determined by soil and good management. Blemishes are prevented by timely and thorough spraying and by careful handling.

(4) **SELECTION OF VARIETIES**—

(A) Heavy yields are the first consideration. Shy bearers increase the cost of production.

(B) Select varieties that bear a large percentage of grade A fruit.

(C) Next in importance is the selection of varieties that command the best prices. The wholesaler and retailer will pay good prices for what he can readily sell. Usually quality varieties are preferred, but there are exceptions—early varieties like Yellow Transparent and Duchess which are used for cooking. Ben Davis, Black Ben, Champion and Gano have proved quite profitable for some

growers, but such varieties do not stimulate the demand for apples and there are some better varieties which are usually more profitable in most districts.

(D) It should not be necessary to point out that varieties must be adapted to one's climate—for instance, northern varieties like R. I. Greening have not proved successful in the Ozarks of Missouri. It is certainly a big gamble to plant (except in a small way for testing) varieties whose production and behavior in one's own district are unknown. An orchardist south of Neosho lost 25 three-year-old trees of an untried variety from winter injury, while none of his other varieties were damaged.

(E) There is no perfect variety. All have some drawback such as susceptibility to blight, etc. The Grimes Golden is adapted to a wide range of climate, stands high in production and regularity of bearing, bears a good per cent of grade A fruit and brings good prices on most markets. But it has one bad fault—susceptibility to collar-rot which attacks the trunk near the ground. This trouble can be prevented by planting double-worked trees. (See page 31.)

(F) If you plan to ship to market, about four varieties is enough. For local market it is well to have some early and midseason varieties so as to supply the demand over a long season.

(G) If your varieties are ready to sell when there is the least competition from other fruits or from other growers, your sales will be easier and your prices higher. Neosho is in the heart of a big producing center of Strawberries, practically all Aroma, which ripens at a time when competition from other districts is least.

(5) Next comes the problem of arrangement. Some varieties are more or less sterile so it is wise to plant not more than four rows of one variety alternately with another for cross-pollination. The set of fruit will be greatly improved by moving bees into the orchard, about one colony to the acre, avoiding the hazard of poisoning by putting the bees in the orchard between the pink spray and the calyx spray.

(6) **SECURING NURSERY STOCK**—Since an orchard is a lifetime investment and the purchase price will be an insignificant item of cost by the time the trees come into profitable bearing, obviously it pays to plant only the best trees—trees that will thrive and produce profitable crops for many years.

(7) **PROPER CARE** includes planting, maintenance of soil fertility and moisture, timely and thorough spraying, pruning, etc.

(8) **INFORMATION**—See index page 1 for other data and other fruits. Tell us your problems. We will help you to solve them to the best of our ability.



# Buy Your Trees by Diameter

Nurserymen sell fruit trees to each other on the basis of diameter of the trunk measuring two inches above the collar—for instance, two-year apple are listed 11/16 inch and up, 5 feet and up; 9/16 to 11/16 inch, 4 feet and up; 7/16 to 9/16 inch, 3½ feet and up. They realize and so do experienced orchardists, that a large part of the top is cut off and thrown away after transplanting. What is then left makes the foundation of the orchard.

In the picture below are three of our two-year apple trees in three sizes. They were all of the same height. If a customer ordered 100 trees 5 feet and up graded by height only, we could send him the 7/16 to 9/16 inch size in some varieties at about half the price of the 11/16 inch, 5 feet and up. The same is true also with one-year apple. We list ¼ to ⅜ inch yearling apple as 2 feet and up, but out of 100 Jonathan taken at random from our ¼ inch grade (November, 1930) 44 measured 3 feet and up and 32 measured 3½ feet and up.

We grade and sell our fruit trees by diameter, though we also state the minimum height. There is always plenty of top to cut off after transplanting.

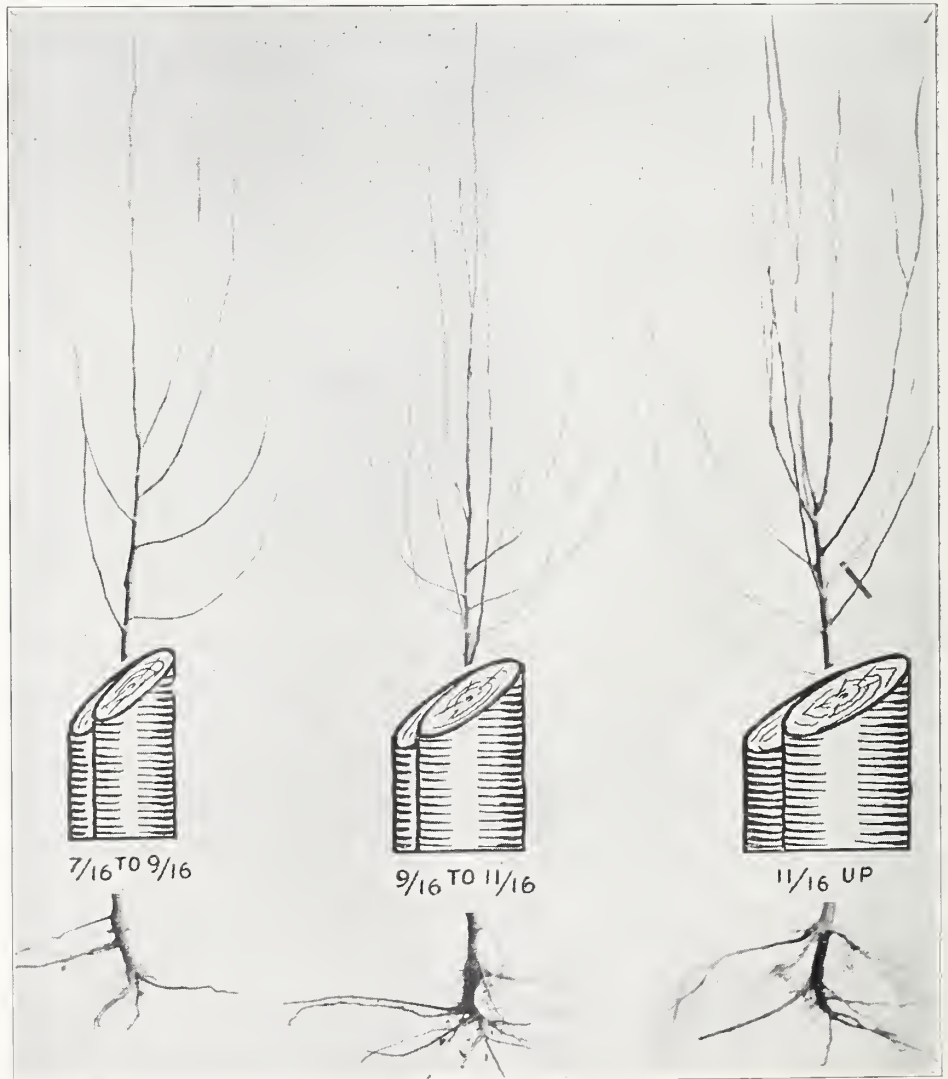


**Novelty Apple Tree.**

The picture above is one of our "Novelty" apple trees with 5 varieties, which ripen from early summer to late fall. The trunk is 3 years old and the branches are 1 year's growth. Each branch will be labeled with the name of the variety.

The white bands show where the branches should be cut off after transplanting.

We have been selling these trees for a number of years, but have only a few to offer until the fall of 1931.



"I wish to express my thanks for the 1,000 apple trees I bought of you one year ago. They have made a fine growth. I like your way of doing business and will not hesitate to recommend your trees and way of business to anybody."—J. E. Anderson, Iowa.

"The 1,506 peach trees ordered from you were received and very satisfactory. We like the grading of the trees we got from you better than the ones you ordered for us, but they are all very satisfactory."—C. L. Dickson, Missouri.



# Apples—For Health, Pleasure and Profit

THE apple, of all tree fruits, is the most generally popular, the most extensively grown, has the greatest number of varieties and is prepared in more different ways for the table. It is a tonic, as well as a nutrient, and one of the cheapest and most wholesome foods. There's a lot of truth in the old saying, "An apple a day keeps the doctor away."

Every home garden and farm should have at least a few apple trees of summer, fall and winter varieties. They will give satisfaction far beyond the time, labor and money required.



B



A

Triple  
the  
Life of  
Your  
Grimes

There are orchards of this variety 15 years old which are dying out on account of collar-rot which attacks the tree near the ground. They will live and retain their usefulness three times as long if the Grimes part is grown on a vigorous variety which is not subject to collar-rot.

In the spring we plant a graft of a hardy variety. Then in midsummer we insert the Grimes bud in the trunk 12 to 18 inches from the ground. (See Fig. A above.) This bud doesn't grow until the following spring when the top is cut off just above the bud. The tree is ready to dig in the fall. The roots and the lower part of the trunk are then two years old. The Grimes part is one year old. (See Fig. B.) Some are whips and some are well branched.

"I have trees from one year old to ten years old that I have purchased from you and all ages are growing nicely."—R. S. Hommel, Tennessee.

"We have planted nearly a hundred acres with your trees and have been well pleased with them, as they have done remarkably well."—Irvington Orchard Company, Kentucky.

This condensed table will help to choose an assortment that will give you apples the year round if you have a good cellar.

Most summer and fall varieties ripen over a period of several weeks and many are good for cooking before ripe. Winter varieties are picked when mature but before they are ripe enough to eat. Maturity can be told by the changing from a hard dead green color to warmer reds and yellows, by the seeds turning brown and by the readiness with which the stem separates from the twig.

Varieties marked \* are adapted only to northern climate.

Under "Size," M—Medium; M-L—Medium to Large; L—Large; V-L—Very Large.

Under "Quality," F—Fair; G—Good; V-G—Very Good; B—Best.

Under "Use," C means for Cooking; D for Dessert.

Varieties	Color	Size	Quality	Use	Keeps in Common Storage
<b>EARLY SUMMER:</b>					
Liveland Raspberry	Red Striped	M	G	C, D	2 Weeks
Yellow Transparent	Yellow	M	G	C, D	2 Weeks
<b>MIDSUMMER:</b>					
Red Astrachan	Red Striped	M. to L.	G. to V. G.	C, D	3 Weeks
Duchess of Oldenburg	Red Striped	M	G. to V. G.	C	2 Weeks
Red Duchess	Solid Red	M	G. to V. G.	C	3 Weeks
Wilson Red June	Deep Crimson	M. to L.	V. G.	D, C	3 Weeks
Sweet Bough	Greenish-Yellow	M	G. to V. G.	C, D	2 Weeks
Early Harvest	Pale Yellow	M	G. to V. G.	C, D	1 Weeks
<b>LATE SUMMER:</b>					
Maiden Blush	Yellow-Red Blush	M	G	C, D	7 Weeks
Ada Red	Purplish-Red	M	V. G.	D, C	3 Weeks
Wealthy	Red Striped	M. to L.	G. to V. G.	D, C	5 Weeks
<b>FALL:</b>					
McIntosh*	Bright Red	M. to L.	V. G. to B.	D	9 Weeks
Grimes Golden	Golden Yellow	M. to L.	B.	D, C	10 Weeks
King David	Dark Red	M	G	D, C	12 Weeks
Wagener*	Red and Yellow	M. to L.	V. G. to B.	D, C	8 Weeks
Jonathan	Bright Red	M. to L.	B.	D, C	12 Weeks
<b>WINTER:</b>					
Delicious	Red Striped	L	B	D	10 Weeks
Richared Delicious	Solid Red	L	B	D	12 Weeks
R. I. Greening*	Green and Yellow	L	V. G.	D, C	12 Weeks
Winter Banana	Yellow and Red	M. to L.	G. to V. G.	D	10 Weeks
Spitzenburg*	Yellow and Red	M. to L.	B	D, C	12 Weeks
Black Ben	Bright Red	M. to L.	F	C	14 Weeks
Ben Davis	Red Striped	M. to L.	F	C	16 Weeks
Rome Beauty	Red Striped	M. to L.	G	D, C	14 Weeks
Red Rome Beauty	Solid Red	M. to L.	G	D, C	16 Weeks
Baldwin*	Bright Red	M. to L.	G	D, C	14 Weeks
Northern Spy*	Red Striped	L	B	D, C	14 Weeks
Winesap	Dark Red	M	G. to V. G.	D, C	14 Weeks
Stayman	Red Striped	M	G. to V. G.	D, C	14 Weeks
Blaxtayan	Solid Red	L	G. to V. G.	D, C	16 Weeks
Senator (Oliver)	Dark Red	L	G	D	12 Weeks
Mam. Black Twig	Dark Red	L	G	D, C	16 Weeks
Paragon	Dark Red	M. to L.	G. to V. G.	D, C	16 Weeks
York Imperial	Red Striped	L	G. to V. G.	D, C	16 Weeks
Willow Twig	Green and Red	M. to L.	F. to G.	C, D	16 Weeks
Champion (Collins)	Red and Yellow	M	F	C	16 Weeks
Yellow Newtown	Yellow	M. to L.	B	D, C	18 Weeks
<b>CRABAPPLES:</b> These varieties ripen about two weeks apart.					
Florence	Red Over Yellow	M	G	C	2 Weeks
Excelsior	Red and Yellow	V. L.	G. to V. G.	C, D	2 Weeks
Hyslop	Red Over Yellow	M. to L.	G	C	6 Weeks
Whitney	Red over Yellow	L	G. to V. G.	D, C	6 Weeks

## Extra Profits for Apple Growers

If your climate and markets are favorable to Delicious, Duchess, Rome Beauty, or Stayman, it will pay you handsomely to plant the new red strains of these varieties.

The Richared Delicious	} Means {	Earlier Picking, More Extra Fancy grade.
The Red Duchess		Fewer, if any, Windfalls,
The Red Rome Beauty		Earlier Marketing, Better Keeping Quality, Greater Profits.
The Blaxtayan		



# A Michigan Grower has Bought Our Trees For 9 Years



## RICHARED (trademarked) DELICIOUS

Four Years Old Bears 31 Apples

Mr. H. M. Crocker of Washington planted 10 Richared Delicious apple trees in April, 1927. On September 5, 1930, each tree had two or more apples. One had thirty-one apples; every one a beautiful solid, dark red and extra fancy grade. 29 Common Delicious of the same age did not bear an apple, so Mr. Crocker budded them to Richared in August. (See back cover.)

**ADA RED (Late Summer)**—Originated in Northwest Arkansas where the only two orchards now in bearing are located and is harvested about August 15. It has not been tested in other districts to our knowledge. It is a particularly young bearer. The fruit is medium size, roundish; yellow, nearly covered with red and broken stripes of purplish crimson; flesh whitish; flavor mild subacid; good for dessert, excellent for cooking.

**ALBEMARLE PIPPIN** — (See Yellow Newtown.)

**BALDWIN (Winter)**—The Baldwin is the leading variety in the older commercial orchards of New York, New England, in Michigan and Northern Ohio. In the South and Southwest it is not desirable, because it ripens too early, and drops from the trees before its good qualities are developed. Fruit large to very large, good quality.

**BEN DAVIS** — Roundish, large, red striped apple of second rate quality, but good for cooking. Bears young annually and abundantly. Formerly planted heavily in Kentucky, Tennessee, Illinois, Missouri and Arkansas, but is being superseded by varieties of better quality.

**BLACK BEN (Winter)**—The best of the Ben Davis family. It attains a much higher color than the Ben Davis or Gano. The tree is hardier, more vigorous, and more prolific than the Ben Davis. Fruit is large, solid dark red; fair quality.

**BLAXTAYMAN** has all the good qualities of the common Stayman but colors up a solid red. This means Beautiful Color, Earlier Picking and Marketing, more Fancy Grade, no Windfalls and Better Keeping Quality, and therefore greater profits to the grower. Every buyer is required to sign a purchase agreement. (See back cover.)

**CHAMPION (Collins Red) (Winter)**—Very heavy, regular and early bearer. Fruit medium in size, roundish; attractive deep red striped with purplish carmine. Comparatively low quality but good for such a late keeper.

**DELICIOUS (Winter)**—Who is not familiar with this popular apple? Who does not appreciate its unexcelled flavor, its beauty of form and color, its fragrant

aroma? It finds a ready sale at high prices. The tree is vigorous, hardy and is fruiting in nearly every state.

**RICHARED**, the Delicious supreme, has all the good qualities of the common Delicious, but colors up a solid red two or three weeks before the common Delicious begins to color. This Means Greater Profits for the grower, because of Earlier Picking, Earlier Marketing, More Extra Fancy Grade, No Windfalls, Better Color and Better Keeping Qualities. The Richared Delicious originated in a Delicious orchard in the Wenatchee valley, Washington. Purchasers are required to sign an agreement not to give away, sell or permit anyone else to give away or sell or take any scions, buds or cuttings from these trees. (See back cover.)

**DUCHESS OF OLDENBURG (Midsummer)**—Attractive yellow apple, with red stripes; medium size. One of the most profitable summer varieties. Tree is a moderate grower; can be planted close and is often used as a filler. Comes into bearing young. Bears heavy crops annually; great market apple and especially good cooker. Ripens in succession, requiring several pickings. Extremely hardy.

**RED DUCHESS**—This is a strain of the Duchess. The only difference is that it colors better and earlier, a big advantage for the commercial grower.

**EARLY HARVEST (Midsummer)**—A pale yellow, medium sized apple of very good quality for either dessert or cooking. Comes into bearing young.

**GRIMES GOLDEN (Fall)**—The best quality, profitable yellow apple; rich golden color. Flesh is yellow, very firm, crisp but tender, rich, aromatic and juicy; very good to best quality; medium to large; an ideal dessert apple and a splendid cooker. Tree is a hardy, vigorous, and heavy regular cropper. Bears about the fourth year. The highest quality yellow apple and one of the best for home use and commercial planting. It is a leading commercial variety in Missouri, Arkansas and is successfully grown in many other middle latitude states. Plant double worked trees to avoid loss from collar-rot.

**JONATHAN (Fall)**—A grand, good apple; once tasted, always wanted. Bright solid red. It has an aromatic flavor and juice full of snap and sparkle. Medium size; very good to best quality. Bears young. Produces good crops regularly. Fine for home and commercial planting.

**KING DAVID (Fall)**—Bears heavy crops year after year. Medium size; very dark rich garnet red, showing almost a purplish-black on the sunny side. Similar to Jonathan but more tart. Tree is a hardy, vigorous grower, comes into bearing young. Sometimes used as a filler.

"The apple trees we got from you this spring are doing wonderfully well and so far have only lost eight trees out of the thirteen hundred and seventy-five."—Riverside Fruit Farm, Kansas.



# A Tennessee Orchardist Has Over 15,000 Neosho Trees

**LIVLAND RASPBERRY (Early Summer)**—Beautiful red and yellow apple. Medium size; flesh is snow-white, fine-grained, crisp and juicy. Very good. Tree is a strong, vigorous grower.

**MAIDEN BLUSH (Late Summer)**—Striking, highly colored, yellow apple, with a deep crimson blush on one cheek. Round, flat, medium size; a good eating and excellent cooking apple.

**MAMMOTH BLACK TWIG OR ARKANSAS** (Often confused with Paragon)—A large apple of good quality; a dull green or deep yellow overspread with red; good quality; excellent keeper. Formerly quite extensively planted in middle south and southwest, but not at present, because it is often a shy bearer. The tree is one of the best, making a fine, vigorous, spreading growth.

**McINTOSH (Fall)**—One of the best early winter apples for northeastern states; noted for its high quality and delightful fragrance. Medium to large size, roundish, slightly flattened at the stem end. Beautiful deep crimson, striped with carmine. Tree is long-lived, a strong, vigorous grower, very hardy. One of the best apples of its season, both for home planting and to supply not-too-distant markets.

**NORTHERN SPY (Winter)**—Attractive, red-striped winter apple; large, roundish and plump, tapering slightly toward the blossom end; very fine quality. Tree is a vigorous and unusually healthy grower. An old-time favorite in the North and Northwest.

**PARAGON WINESAP (Winter)**—Paragon has the large size and very good quality of the Stayman, combined with the dark red color of the old Winesap. The true Paragon was introduced and named by Dr. W. L. Moores of Lincoln County, Tennessee, and has been largely planted under name of Mammoth Black Twig, giving the latter an undeserved reputation. Tree is equal in every respect to Winesap; a more vigorous, open grower.

**RED ASTRACHAN (Midsummer)**—For home use and local market. Nearly covered with light and dark red stripes; large, roundish; very good. Good for eating fresh out of hand when fully ripe; an ideal cooker. Tree is hardy; adapted to every state where apples grow.

**RHODE ISLAND GREENING (Winter)**—A large, roundish, green apple, yellow when fully ripe. One of the best dessert apples and an excellent cooker. Tree is a large, vigorous grower, with wide spreading branches, drooping and dense, usually late in coming into bearing. A North and Northeastern variety.

**ROME BEAUTY (Winter)**—Large, roundish, oblong apple, handsomely colored and striped with bright red; good quality. Splendid storage apple; a splendid bearer, blooms late.

**RED ROME BEAUTY**—Identical with Rome Beauty except that it colors early and more red. Hence, it is more profitable to the grower.

**SENATOR (Oliver-Red) (Winter)**—A medium to large, attractive, roundish apple of good to very good dessert quality. Under color yellow, washed over nearly entire surface with bright red and with numerous gray or russet dots. Usually picked early in September in the Ozarks of Missouri.

**SPITZENBURG (Esopus Spitzenburg) (Winter)**—Large, handsomely colored, bright purplish-red, shaded with yellow and striped with darker red; very best quality. Thrives in favored Northern localities.

"Thanks for the fine trees sent me last year. All started very well and I believe I will have a 100% stand. I am glad to say that the trees you have sent me the past two years were the finest I have ever had from any nursery and I have purchased well over 2,000."—W. L. Rosin, Ohio.

**STAYMAN WINESAP (Winter)**—The largest of the Winesap family. Striped and splashed with dark crimson. Splendid quality. Reliable annual cropper. It does best in middle latitudes.

**BLAXTAYMEN** (See page 32 and back cover).

**SWEET BOUGH (Midsummer)**—A sweet apple, juicy, good to very good for dessert, excellent for cooking. Begins to ripen about the first week in July. Color is a greenish yellow changing to yellowish white.

**WAGENER (Fall)**—Bright red apple strongly contrasting yellow background color; medium to large; very good quality; enormously productive, usually bears young. Often used as a filler. A Northern variety.

**WEALTHY (Late Summer)**—A most dependable and widely planted late summer apple; bright red striped; medium to large size. Ripens over a long season. Very good quality. Tree is an upright grower; often used as a filler; very hardy; bears young. Adapted to many soils and climates. Good shipper; especially recommended for home use and commercial planting.

**WILLOW TWIG (Winter)**—Medium to large yellowish green, washed and striped with dull red; good quality; a good, long keeper. Rather early and regular bearer.

**WILSON JUNE (Midsummer)**—A deep, solid crimson, like a Red June; large; good quality. Hardy, vigorous, very productive, bears young. Most beautiful of its season; good shipper.

**WINESAP (Winter)**—One of the oldest and most popular apples, a good shipper and an exceptionally good keeper in ordinary and cold storage. Well-grown Winesaps command a premium over most other winter apples with commercial buyers. Splendid bright red, indistinctly striped with dark purplish-red; good quality. Medium size. Hardy, adapted to planting in every part of the country, except in the extreme Northern states. Will succeed on many different kinds of soils, preferring a deep loam. It is a heavy, regular bearer.

**WINTER BANANA (Winter)**—Very showy, bright yellow, with a pinkish-red cheek; noted for its brilliant, transparent, waxen appearance; medium size; good quality, with a rich, spicy flavor; hardy, except in extreme North; regular cropper.

**YELLOW NEWTOWN (Albermarle Pippin) (Winter)**—Medium to large; a beautiful yellow; highest quality for dessert and excellent for culinary purposes.

**YELLOW TRANSPARENT (Early Summer)**—One of the best extra early apples; medium size; a beautiful clear yellow, with smooth waxen, brilliant skin. Unexcelled for pies, tarts and apple sauce. Tree is extremely hardy, upright and compact grower; often used as a filler; a reliable cropper. Fruit ripens over a period of three weeks and requires several pickings. Profitable for near-by markets. Excellent for home planting. It is adapted to all apple soils and climates.

**YORK IMPERIAL (Winter)**—Bright, pinkish-red, striped with dark-red; fair quality. Large; its oblique or lopsided shape is a notable characteristic. A very regular bearer; seldom fails.

"The (66 apple) trees were much nicer than I expected at that price. Thanks."—L. F. Harrison, Indiana.



## Neosho Trees Have Superior Root Systems

We invite comparison of our trees with those from any other source.

If you try our trees you will come back to us for your new plantings.

"Received trees (540 apple, 115 peach) Monday morning. I procured the best orchard man in this section and we began work yesterday. This man has set orchards 32 years and said these trees were the best he had ever handled. Thank you for good trees and service."—Laura Heidelberg, Missouri.

## CRABAPPLES

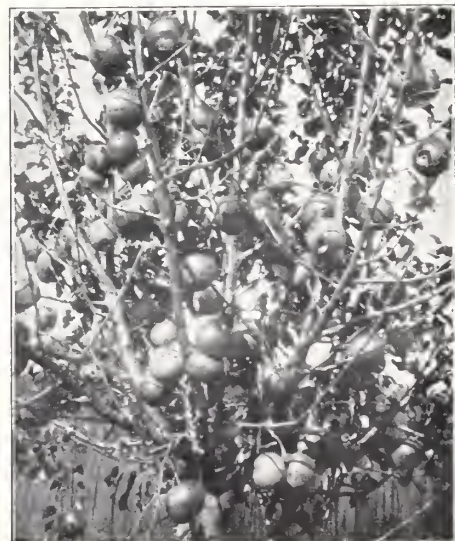
Crabapples should be planted for beauty of tree and fruit, as windbreaks, and for the value of the fruit. They are delicious for cooking, preserving and jellies. Excelsior is delicious for eating fresh.

**EXCELSIOR (Fall)**—Very large for a crabapple, nearly as large as a medium-sized apple. Very attractive yellow almost covered with bright red; excellent in quality for dessert and for culinary uses.

**FLORENCE (Late Summer)**—Medium size, yellowish-white, mostly overspread with brilliant pinkish red. Bears very young, is very productive, reliable cropper.

**HYSLOP (Early Winter)**—Large, very brilliantly colored, dark red or purplish, overspread with thick blue bloom; good for culinary purposes.

**WHITNEY (Late Summer)**—Large, yellow striped with red, good to very good quality.



4 Bushels Per Tree in 4 Years.

This is a Black Ben, one of 500 Neosho trees, Delicious, Black Ben, King David and Stayman, planted by Mr. Cope in Newton County, Missouri. Many of these trees bore 4 bushels per tree the 4th year.



# Pruning of Grape Vines

The fruit is borne on shoots that put out from last year's growth. When the plants are set, cut off the tops so as to leave two or three good buds, and shorten the roots to about eight inches. The first summer the vines are allowed to grow at will.



Fig. I. One-year-old grape vine before and after pruning roots, leaving them 6 to 8 in. long. Top to be cut back as indicated by line.

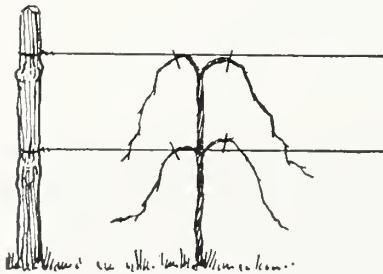


Fig. II. End of second summer. During that summer the top of the cane was pinched off and also all shoots except four. Lines show where canes are pruned the following winter.

The following spring before growth starts select the most vigorous cane, cut it back, leaving two good buds and remove entirely all the other canes. If a strong growth has been made the cane selected may be cut back only to the height of two and one-half to three feet. It will then be necessary to decide on a definite system of training.

The most popular is the four-arm Kniffin System. This calls for a trellis of two wires. Posts about six to seven and one-half feet tall are set 18 to 24 inches deep and 10 feet apart. The end posts must be braced. Number 9, 10 or 12 smooth wire is stretched tight on the posts, the lowest wire two and one-half to three feet from the ground and the other wire two to two and one-half feet higher.

The second summer when the new shoots are about a foot long, select the straightest and strongest and cut off the other shoot or shoots. This selected shoot or cane should be tied to the wire, or a stake if the trellis has not already been put up. When this cane reaches the top wire it should be tied to that wire and growth above that wire pinched or cut off. This will force outside branches, which should be removed as soon as they start, except from near the upper and lower wires.

The following spring before growth starts, choose two side branches or laterals to run along each of the two wires. Shorten these back so as to leave 10 to 12 buds to each lateral and cut off the other laterals to one bud.

The third year, remove in summer the shoots that come out on the trunk between the wires, between the lowest wire and the ground, and any that come up from the roots. In the spring select four laterals, two for each wire, shorten them according to the vigor of the plant and cut back other laterals to one bud.

## Pruning Bearing Vines, Kniffin System

Save four strong canes, one on each side of the trunk for each of the two wires.

Cut these to about 3 feet long for the top wire and a little shorter for the lower wire. Make cuts about an inch beyond the last bud.

Cut off other canes, except that two as near the wires as possible should be cut back to two buds to make fruit bearing wood for the next season.

Winter pruning may be done any time after the leaves fall until growth starts in the spring, but with small plantings it is better to wait until just before growth starts. In any case do not prune when vines are frozen as they are then easily broken in handling.

The amount of fruiting wood to leave when pruning varies with the vigor of the vine. An average Concord vine can produce about 15 pounds and still grow good fruiting wood for the next year. On such a vine, a total of 30 to 35 buds should be left.

## RABBIT AND MICE PROTECTION

The best way is to put around the trunk a roll of galvanized wire cloth of one-fourth inch mesh. Many use paper but remove it in late spring. Some have found it effective to paint the trunks with Lime Sulphur and Arsenate of Lead or White Lead and Linseed Oil.

Mice injury can be prevented by keeping any weeds or grass away from the trunk or by wire protectors which should be pushed into the ground a couple of inches.

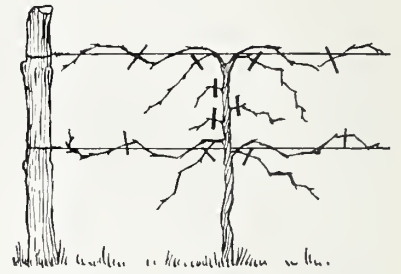


Fig. III. Shows growth during third season. Lines show pruning the winter following.

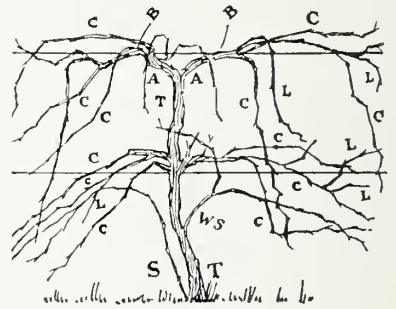


Fig. IV. Mature Vine.

T—Trunk.  
WS—Water Sprouts.  
S—Suckers.  
A—Arms.  
C—Canes.  
L—Laterals which are secondary shoots of a cane.

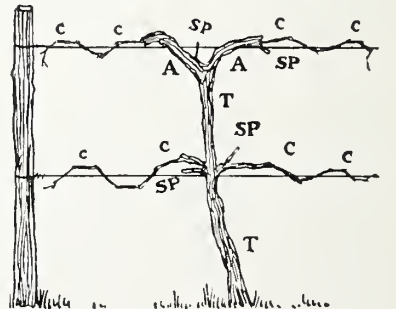


Fig. V. Mature Vine Pruned.

T—Trunk.  
A—Arms.  
C—Canes, one year old, on which fruit is borne.  
SP—Spurs from which canes will grow for fruit the next year.

## WHY FRUIT TREES FAIL TO BEAR

The blossoms of some varieties are more or less self-sterile, that is, the pollen of the variety will not fertilize its own blossoms. Home orchards usually consist of several varieties of the same kind and this difficulty is not often present. In commercial planting it is wise to plant say four rows of one variety, alternately with four rows of another. That is the best plan even with self-fertile varieties like Grimes and Jonathan.

Lack of pollination, and therefore a crop failure, may be due to cold, wet weather at blossoming time.

Failure to bear may also be due to the condition of the trees. If the tree makes

a small amount of new growth, the fruiting wood will also be weak. This condition may be remedied by cultivation and feeding, particularly with fertilizers containing a large percentage of nitrogen. On the other hand, the trees may be making too vigorous growth, throwing all their energy into producing wood. In such cases less pruning, less cultivation or less fertilization, or even planting to grass will produce the desired result. Summer pruning is also practiced by some experienced orchardists.

Fruit buds may also be killed by extreme winters, or may be injured by late spring frosts. If the trees are kept in a healthy condition the buds will be hardier.

## INTERCROPS

Fruit trees do not use all the ground the first few years and various crops are sometimes used to secure earlier returns from the land. Annual crops such as early beets, turnips, radishes, peas and beans are good, but late vegetables should be avoided since they require late cultivation, which prevents the trees from maturing properly before cold weather. Currants, gooseberries, strawberries and raspberries have also produced good results. With strawberries there is danger that the trees will not receive proper cultivation after the first season.

Grain crops should never be used.

A space 6 to 8 ft. should be left unplanted along each row of trees and increased in width each year.

Of course, if intercrops are grown more liberal fertilization must be given.



# Grapes for Pleasure and Profit

The grape is the surest, most dependable of fruits—hardy, vigorous, productive—and bears the second or third year. Every yard or garden should have a few grapevines. They take little room, are quite ornamental trained over arbors, fences, walls or buildings, and they also produce good fruit in spite of neglect or unfavorable conditions. Of course, they respond quickly to care and attention; especially do they require severe pruning. Some varieties are sterile (marked \*) and must be planted near others for cross-pollination. Set 8 ft. apart, rows 10 ft. apart.

If the soil is poor or not well drained, the home grower can easily provide a remedy. There are vines still bearing at least 300 years old. It is worth while then if necessary to dig a generous hole 2 feet deep, put a pailful of old bones in the bottom, cover them with good earth and plant the vine.

**AGAWAM (Red)**—The most widely grown of the Rogers Hybrids. Bunches are large. Berry is large, rich, sweet, and aromatic. Vine is vigorous and self-fertile. Ripens after Concord and can be kept much longer, and improves in flavor. Seems to prefer clay soil. Of the red grapes, it is the easiest grown and most dependable. For home use and market. Keeps in storage till midwinter. Blooms rather late.

**BRIGHTON\* (Red)**—A handsome high quality red grape; clusters and berries are large. Vigorous, productive, dependable, adaptable to various soils. Ripens before Concord. Deteriorates rapidly in quality after ripening. Blooms rather late.

**CAMPBELL EARLY (Black)**—Bunch and berry are large; high quality when mature, but colors before ripe and often marketed in unripe condition; good keeper and shipper. Vine is productive, hardy but not adapted to wide range of soils. Ripens about two weeks before Concord. Blooms midseason.

**CONCORD (Black)**—The most widely-planted grape. Superior in hardiness, productivity, and regularity in bearing and in ability to withstand disease and insects. Good size of bunch and berry. It is the leader for making grape juice. No other grape has been able to compete with it on the market, as it can be produced so cheaply. Blooms midseason.



Grapes give real satisfaction—easy to grow.

**DELAWARE (Red)**—The standard of quality; the best table grape. Unusually hardy; usually bears abundantly. Ripens a few days earlier than Concord. Ships and keeps well. Its faults are: Small size of vine and berry, slow grower, and foliage susceptible to mildew, which can be controlled by spraying with Bordeaux mixture. It succeeds best in deep, rich, well-drained, warm soils, and should be planted more closely than most other varieties. It commands the highest prices, and is valuable North and South for both home use and market. Blooms rather late.

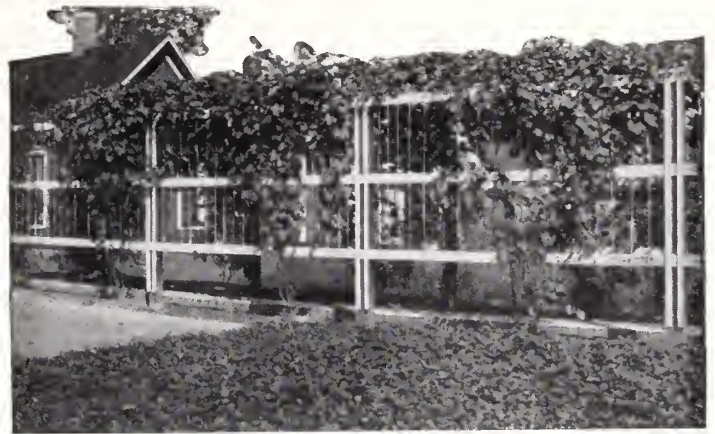
"We purchased two or three orders from you this spring, altogether 25 fruit trees, 26 shrubs, 6 rose bushes and 10 grape vines and in all we have lost only 2 rose bushes and 2 grape vines and the remainder are all doing fine."—G. L. Hahnenkratt, Colorado.

**DIAMOND (Green)**—Seldom surpassed in quality and beauty. It is the hardiest, most productive and vigorous of the green grapes, although Niagara bears more heavily in most localities. A good keeper and shipper. It deserves a high place among the best for commercial and home vineyards; unfortunately often sold as Niagara. Medium size; green, with tinge of yellow, but less yellow than Niagara. Can be grown as widely as Concord. Blooms midseason.

**MOORE'S EARLY (Purplish-Black)**—The most widely planted early commercial grape. Ripens two weeks earlier than Concord. Fair to good in quality. It is best described as an early Concord. It should be planted on rich, well-drained, loose soil. Blooms midseason.

**NIAGARA (Green)**—The most widely planted green grape. Larger bunches and berries than Concord, as good, or better in quality, but inferior to Diamond. Productive, vigorous, adaptable; not as hardy as Concord. Ripens about with Concord. Keeps fairly well. Flavor not at its best unless fully ripe. Blossoms midseason.

**WORDEN (Black)**—Much better quality, larger berries and bunches and handsomer than Concord and is equally healthy, hardy, vigorous, and productive, but often more particular as to soil. Its chief fault is a tendency to crack. Ripens a week to ten days earlier. It does not keep long, but is especially desirable for the home garden and for nearby markets.



## Proper Care Brings Great Rewards

These Concord and Niagara grape vines bore fruit the second season. They were planted by our customer, Mr. Wm. Meyers of Brookfield, Mo., in the spring of 1922 and the picture was taken in October, 1923.

## Luscious Apricots

The Apricot is one of the most delightfully luscious fruits, when eaten fully ripe and fresh from the tree. It is remarkable that such a rich and beautiful, golden, sweet fruit is not planted more, especially since it ripens just after the early cherries and before the best early peaches. Apricots will stand more winter cold than peaches, although the bloom is more apt to be injured by spring frosts. The soil should be well drained, the subsoil as well as the surface. A northern or western slope is best so the opening of the buds will be retarded and the danger of frost damage lessened.

**SUPERB (Freestone)**—The best apricot for Eastern planting; medium size; roundish oval; smooth, light salmon color, with numerous red dots; flesh is yellow, very good. The tree is a very hardy Russian type, a vigorous grower; very productive; latest-blooming apricot.



Superb Apricot.

## Quince Adds Flavor

The Quince is the ideal fruit for flavoring preserves, jellies, marmalade and cooked fruit. Trees thrive on well-drained, fairly rich soil, are long-lived, and, being small, dwarfish growers, can be planted closely, 10 to 15 ft. They are especially suited for yards and gardens.



# Correct Pruning is Essential to Success

**PRUNING** is the removal from a plant of the part or parts which are undesirable or superfluous, and the object is to improve results or to make them more certain. Nature's purpose is the production of a large number of seed, but the gardener wants quality fruit.

The first thing to develop is a good framework to carry a load of fruit and to make it easiest to spray and harvest. One must picture in advance what one wants to accomplish.

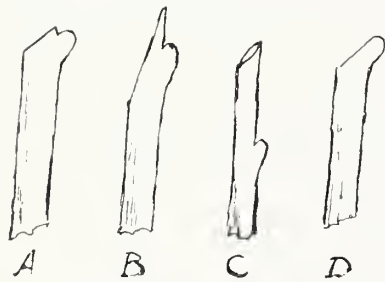
## Pruning Plum

Plum bears partly on spurs and partly on last season's growth.

Some growers at planting time prune the same as with peach; others, when setting branched one or two-year olds, select three to five branches, cut them back one-third to one-half and head back the leader proportionally.

Varieties differ widely in habits of growth. The Japanese varieties grow more like the peach and are pruned much the same. The Burbank is a rank, sprawling grower and needs more heading back.

As a rule it is better to let the trees take their natural form. Of course, broken, splitting or interfering limbs should be removed, but heading back and thinning out and summer pinching back should be practiced with due consideration of the way the tree grows.



A—Right way to cut twigs.  
B—Too long a slant.  
C—Too long a stub.  
D—Too close to bud.

## Pruning Pear

The pear also bears fruit like the apple, on "spurs," and is pruned much the same. Most varieties, however, tend to grow in an upright form and are usually headed lower. Light pruning is the rule and cuts should be made above outside buds whenever possible. Heavy pruning induces young growth, which is more susceptible to blight.

## Pruning Dwarf Pear

Dwarf Pears are usually trained to pyramid form, which calls for a central trunk with side branches, the longest nearest the ground. The longest branches, called leaders, are severely headed back before growth starts in the spring.

This ought to result in growth of side shoots, which should be pinched back during June and July to develop fruit buds. This is done when the shoots have about six leaves, all but three of which are removed. When these shoots send out other shoots the latter should be pinched back to two leaves as soon as three are formed. This pruning is done every year. A main branch or leader may be allowed to rebranch and these should have the shoots pinched back in the same way as those on a main branch.

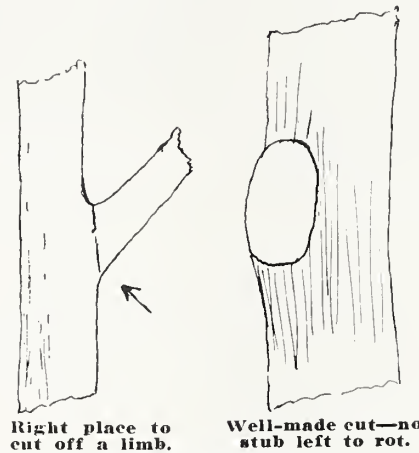
## Pruning Apricot

Apricot bears fruit on last season's growth and also on fruit spurs.

Pruning is similar to that of the peach. The old wood needs to be thinned out from time to time and the tops will quickly get too thick unless they are properly pruned every season.

**HOW TO PRUNE**—Make all cuts smooth, close to the trunk or branch, or close to a bud.

**TREATING WOUNDS**—The general practice has been to paint wounds over two inches in diameter with a paint of pure white lead and pure linseed oil. Some use creosote, a very thin coating, over the center, but this must not be allowed to touch the young wood or young bark. Some recommend Sodium Silicate ("water glass").



Right place to cut off a limb. Well-made cut—no stub left to rot.

## Pruning Cherry

The fruit is borne largely on spurs, but also from lateral buds on last season's growth.

One-year Sweet Cherry are "whips" and when transplanted, the top is cut off close to a bud  $2\frac{1}{2}$  to 3 feet from the ground.

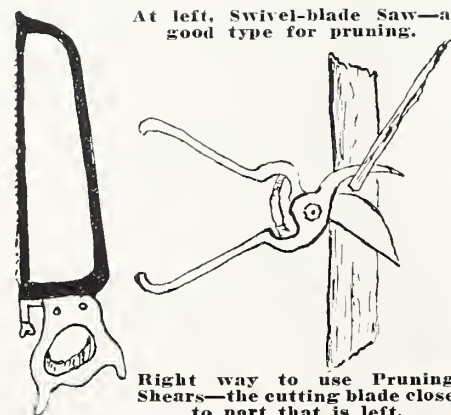
Two-year Sweet Cherry and both one and two-year Sour Cherry, are branched and when pruned after planting, from three to seven side branches may be left, selecting those that are well spaced and on different sides of the trunk.

From then on little pruning is required. It may be necessary to remove some branches that cross, or some that grow back into the trunk, or some that are too close, or to thin out the top before the branches become so thick that they shade and kill out the lower wood. It is desirable to encourage fruiting in the lower part of the tree. Heavy pruning can be avoided by doing a little every year as needed.

## Pruning Peach

The fruit is borne on last year's wood. After the tree is planted, cut off the top

At left, Swivel-blade Saw—a good type for pruning.



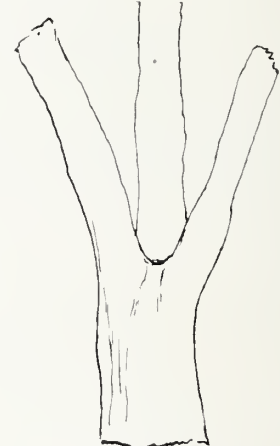
Right way to use Pruning Shears—the cutting blade close to part that is left.

18 to 24 inches above the ground and cut off any side branches about an inch from the trunk, leaving one or two good buds.

During the first season when the growth is four to six inches long, choose three to five side branches on different sides of the trunk and well spaced. Assuming

that you select three branches, the highest would be about two feet above the ground and the lowest branch about a foot. Every three or four weeks during the first summer, pinch off the tip ends of all the other branches. If these are very numerous, some of them may be cut off close to the trunk. If this pinching is done, no winter pruning will be necessary.

During the second summer select two or three shoots growing outward, not upright, on the main branches and pinch back the others.



Prevent Bad Crotches like this.

During the third summer, less pinching back is required and during the fourth season practically none is necessary. All that is needed can be done in the winter pruning.

The result should be a tree low-headed, spreading, with a well-balanced framework that will produce large crops of quality fruit and come into bearing young.

This style of pruning causes growth at many different points rather than much growth at a few points near the cuts. Severe pruning only seems to produce better growth, this growth is near the cuts, at the expense of the lower parts of the tree and the total growth of the tree is diminished.

As the trees get older it will be necessary to prune the tops more heavily in late spring (some growers delay this pruning until the trees are in full bloom). If the twig and limb growth lower down in the tree begins to die out it indicates that the centers and top are not open enough. If these twigs and limbs in the lower part of the tree develop a long growth it shows the top and centers are too open.

If you have old trees that seem to need heavy pruning, cut back moderately, say three to five feet, making a smooth cut to a good sized limb extending outward. Then the following summer when the new growth is one or two feet long, remove the strong sprouts that push out where new limbs are not desired.

## Pruning Quince

The fruit is borne at the tips of shoots that grow out the same season from last year's wood. They should be headed low, about 18 inches. This will give enough trunk up to the lowest branch.

Pruning should aim to keep the top open and well spread out by removing superfluous interior branches and by shortening the shoots where fruit is desired.



# Pruning of Apple Trees



(Fig. 1) At end of first season's growth (if a "whip" was planted), and before pruning.



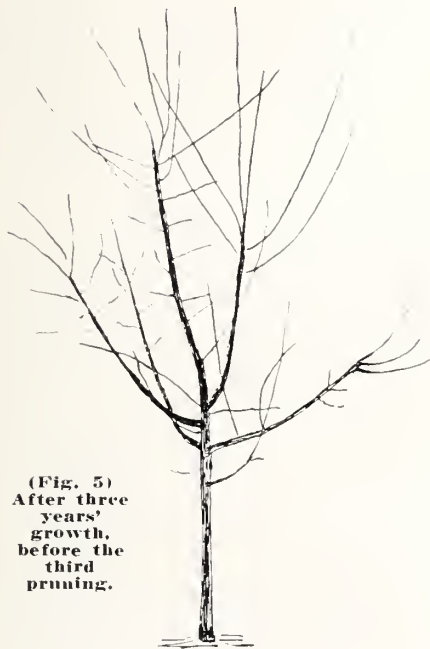
(Fig. 2) Same tree as in Fig. 1, but after pruning. If you could look down on the tree you would see that the three side branches come out on different sides of the trunk.



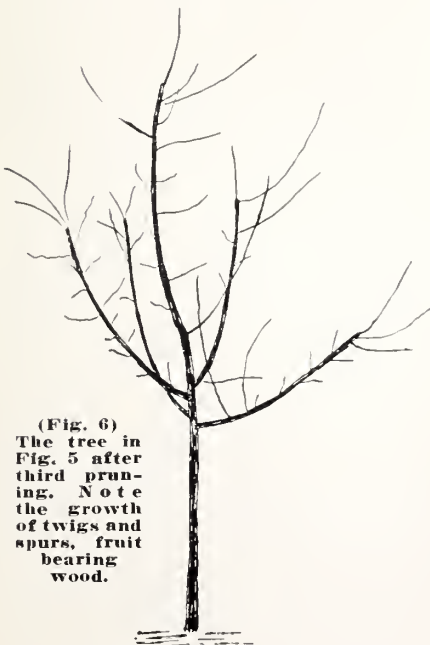
(Fig. 3) This shows the tree after two seasons' growth and before the second pruning.



(Fig. 4) The tree in Fig. 3 after second pruning. Many shoots have been removed, and the leader as well as the branches have been shortened.



(Fig. 5) After three years' growth, before the third pruning.



(Fig. 6) The tree in Fig. 5 after third pruning. Note the growth of twigs and spurs, fruit bearing wood.

The apple bears on "spurs" and this fruit-bearing wood must be encouraged and preserved.

The best form or shape is the Modified Leader Type, which has more and better fruiting wood, is likely to bear younger, avoid weak crotches and has well-spaced branches and a low, spreading top. The training to this type is as follows:

If the tree you plant is a "whip" (with no side branches), the only pruning is to cut off the top 28 to 30 inches from the ground. This is to restore the balance between the top and the root system since a part of the roots may have been lost in digging and the small fibrous roots have to form again from the larger roots.

Assuming that a whip has been planted, during the first summer pick out the branches you want to keep and pinch back the others. This will cause the selected branches to make a better growth.

At the end of the first growing season, before growth starts in the spring it will be necessary to cut off close to the trunk all the branches except those selected to form the framework of your tree. Then shorten the leader a little and also any side branches that are too long or unequal in length. See Fig. 1 and 2.

If you plant a well-branched tree it will be necessary to remove all but 3 to 5 side branches, selecting those well distributed about the trunk and spaced 6 to 8 inches apart. Also leave one branch growing from the top which will be the leader. This should be shortened a little and the side branches selected also cut back one-third to one-half their length.

The fourth season two or three more side branches should be selected from the central leader and these may be headed

back if they threaten to over-shadow the lower limbs. When you have sufficient side branches, probably about six, the leader should be cut off just about the top side branch.

From then on pruning should be as little as is necessary for the proper spacing of framework branches and keeping them in proper proportion. It will be confined to removal of branches or shoots, or heading them back if out of proportion to other branches.

The upper third of the tree should be the thinnest and the lowest the densest, to help maintain good wood all over the tree. This calls for checking of the stronger branches and giving the lower limbs an equal chance to grow and fruit well. If, in heading back, cuts are made to relatively good sized lateral branches, there will be less suckering and quicker healing than if cuts are made back to smaller laterals. However, fertilization and cultivation may be necessary to secure the desired growth throughout the entire tree.

**BEAR IN MIND**—As trees grow older, two parallel branches even 12 to 18 inches apart will crowd each other and one will have to be removed. Also two branches that cross each other 5 or 6 inches apart near the trunk of the tree, will in time crowd each other and one will have to be cut off. Such conditions should be avoided, otherwise they should be remedied as early as possible.

Cutting a branch heavily lessens total growth of that part.

Pruning a branch lightly increases the total growth of that part.

Two branches growing out from the same place will form a bad crotch. Head one back more than the other, which in time will become the leader or main branch, while the shorter will become a side branch.

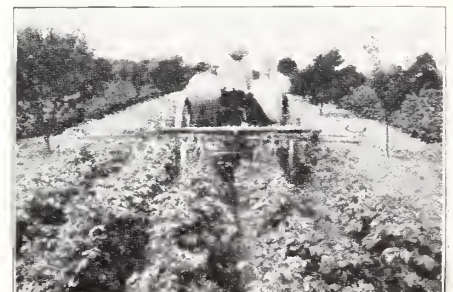
"Heading back" is cutting off a part of, or reducing the length of, a shoot or branch.

"Thinning out" means the removal of the entire shoot or branch.

## Fruit Tree "Fillers"

Fillers are trees set between apple trees, and may be cherry or peach or young-bearing, smaller growing apple trees like Yellow Transparent, Duchess of Oldenburg, Wagener, Wealthy, King David. Cherry and peach are not as desirable as apple because the methods of handling, especially spraying, are different.

Of course, filler trees must be removed when they begin to crowd the permanent trees. There should be no more hesitation about cutting out the fillers than in removal of a limb at pruning time.



Make the land between the young trees pay dividends.



# Avoid Losses by Control of Insects and Disease

**EATING INSECTS**—Eating Insects are controlled by a stomach poison. Arsenate of lead, powdered form,  $1\frac{1}{2}$  lbs. to 50 gallons of water. In small quantities, 1 tablespoon to 1 gallon of water.

**SUCKING INSECTS**—Sucking Insects are controlled by a contact body poison (nicotine sulphate or miscible oils). For soft bodied sucking insects, nicotine sulphate is used,  $\frac{1}{2}$  pint to 50 gallons of water and 2 lbs. of soap. For small quantities use 1 teaspoonful to 1 gallon of soapy water.

Hard shell scale types of sucking insects are controlled by spraying with a strong mixture of lime sulphur or miscible oil when trees are dormant.

**FUNGUS DISEASES**, such as apple scab, blotch, bitter-rot, cherry leaf spot and peach and plum brown-rot are controlled by either lime sulphur or Bordeaux mixture. Use summer strength so as not to injure fruit or foliage.

## SPRAY MATERIALS

**LIME SULPHUR**, a commercial preparation, can be secured in either liquid or dry form. Following directions for liquid: Dormant strength, 1 pint to one gallon of water, 1-8. For trees in foliage or summer strength, 1 gallon to 33 gallons of water, 1-33.

**SELF-BOILED LIME SULPHUR** is prepared by putting 8 lbs. of fresh stone lime

in a barrel and nearly covering it with water. When the lime begins to slake, add 8 lbs. of powdered Sulphur which has been previously sifted to remove all lumps. Stir this mixture constantly, adding more water as needed until a thin paste is secured. Then add immediately enough water to make 50 gallons. Strain the mixture thoroughly.

**BORDEAUX MIXTURE** is used in different strengths. 4-4-50 is considered standard strength and indicates 4 lbs. copper sulphate, 4 lbs. unslacked lime to 50 gallons of water. Prepare mixture by dissolving 4 lbs. of copper sulphate in one vessel, slacking 4 lbs. of lime in another, pour together, stir well and add enough water to make 50 gallons. For use in small quantities, commercial preparations can be purchased.

**HEAVY ENGINE OILS** are being used of late years in dormant spraying for control of scale. Write to U. S. Dept. of Agriculture or State Experiment Station for directions.

**SPRAY EQUIPMENT**—The size of the spray outfit depends on the work to be accomplished. In general for shrubs and small garden work a 3 gallon compressed-air tank will be sufficient. For large gardens and home orchards, a barrel sprayer. For commercial orchards, a power outfit. We will be glad to put you in touch with reliable manufacturers of spray outfits.

## CONTROL OF BORERS

These pests of apple and peach trees must be killed by a wire thrust into their tunnels, disclosed by removing a few inches of dirt around the base of the tree. Go over your trees in April or May and in late August or September. After cutting out the borers, mound up the dirt around the trunk about 6 inches high.

The **FLAT-HEAD APPLE TREE BORER** is usually found from the ground up to the limbs and more often on weak or diseased trees.

The **PEACH BORER** can be destroyed in trees 5 years old up by spreading about an oz. of Paradichlor-benzene in a narrow ring around the tree, not closer than two inches from the trunk, and covering this chemical with several inches of dirt well packed down. Apply in the fall when ground is dry.

## FIRE BLIGHT

This disease sometimes attacks certain varieties of apple and pear. The small shoots turn brown and die and the bark finally becomes blackened. The only method of control is to cut out the affected parts, making the cut six inches below any sign of the disease and burning the blighted parts. The tools and the wounds are disinfected with bichloride of mercury, corrosive sublimate, a **deadly poison**, one tablet to a pint of water applied with a sponge or rag.

## Spray Calendar

### APPLE, PEAR, QUINCE

(1)—**Dormant or Scale Spray.** Any time after leaves drop in the fall, during pleasant weather in winter and until growth starts in spring.  
**For**—San Jose Scale, Other Scale Insects, Plant Lice (Aphids).  
**Use**—Commercial liquid lime-sulphur 1 to 7 or miscible oils. This spray may be omitted if scale is not present. Arsenate of lead is not required.

(2)—**First Summer or Cluster Bud Spray.** When cluster buds are separated and the pink petals show, but before the blossoms open.  
**For**—Plant Lice (Aphids), Apple Scab, Curculio, Canker Worms, Apple Rust, Leaf Spot, other biting insects.  
**Use**—Lime-sulphur ( $1\frac{1}{2}$  to 50), see note, plus 1 lb. of dry arsenate of lead. Nicotine sulphate ( $\frac{1}{2}$  pt. to 50 gal. of spray mixture when plant lice are abundant).

(3)—**Second Summer or Calyx-Cup Spray.** Start when bloom is two-thirds off and finish before the blossom ends close. Most important summer spray, apply thoroughly.  
**For**—Codling Moth, Plant Lice (Aphids), Apple Scab, Leaf Spot, Curculio, Canker Worms, Lesser Apple Worm, other biting insects.  
**Use**—Lime-sulphur ( $1\frac{1}{2}$  to 50), see note, plus 1 lb. of dry arsenate of lead. Nicotine sulphate ( $\frac{1}{2}$  pt. to 50 gal. of spray mixture when plant lice are abundant).

(4)—**Third Summer Spray.** Within 12 to 15 days after Calyx spray. If Curculio injury is severe apply within 6 or 7 days.  
**For**—Apple Blotch, Sooty Blotch, Leaf Spot, Curculio, Codling Moth, Lesser Apple Worm, other biting insects.  
**Use**—Lime-sulphur ( $1\frac{1}{2}$  to 50), see note, plus 1 lb. of dry arsenate of lead. If apple blotch is severe use Bordeaux 3-4-50.

(5)—**Fourth Summer Spray.** Apply 5 or 6 weeks after the Calyx spray, or if No. 4 is made within 6 to 10 days, apply No. 5, 2 to 3 weeks later.  
**For**—Apple Blotch, Sooty Blotch, Curculio, Codling Moth, Lesser Apple Worm, other biting insects.  
**Use**—Lime-sulphur ( $1\frac{1}{2}$  to 50), see note, or Bordeaux 3-4-50, plus 1 lb. of dry arsenate of lead. If apple blotch is severe, use Bordeaux 3-4-50.

(6)—**Fifth Summer Spray.** Apply about 2 or 3 weeks after No. 5 or 7 to 9 weeks after Calyx spray. Make later sprays

at intervals of 10 days or 2 weeks, where apple blotch or bitter rot is serious.

**For**—Codling Moth, Lesser Apple Worm, Apple Blotch, Bitter Rot, Sooty Blotch, Curculio, other biting insect.

**Use**—Lime-sulphur ( $1\frac{1}{2}$  to 50), see note, or Bordeaux 3-4-50, plus 1 lb. of dry arsenate of lead. If apple blotch or bitter rot is serious use Bordeaux 3-4-50.

## GRAPES

(1)—In the spring before buds begin to swell.  
**For**—Scale, Anthracnose.

**Use**—Lime-sulphur solution, winter strength for both Scale and Anthracnose, or Bordeaux, double or triple strength for Anthracnose.

(2)—As buds are swelling. Repeat in 5 to 7 days.  
**For**—Flea Beetle only.

**Use**—Lead Arsenate (dry) 3 lbs. to 50 gallons.

(3)—When shoots are showing second or third leaf.  
**For**—Black Rot, Anthracnose, Flea Beetle.

**Use**—Standard Bordeaux for rot. Lead Arsenate (dry) 3 lbs. to 50 gallons for insects, if needed.

(4)—Before blossoms open.  
**For**—Black Rot, Anthracnose, Curculio, Flea Beetle, Berry Moth.

**Use**—Standard Bordeaux for rot. Add 2 lbs. of soap to each 50 gallons. Use Lead Arsenate (dry) 2 lbs. to 50 gallons for insects.

(5)—After blooming.  
**For**—Black Rot, Anthracnose, Curculio, Berry Moth.

**Use**—Same as for preceding application.

(6)—10 to 14 days after blooming.  
**For**—Black Rot, Anthracnose, Insects.

**Use**—Same as for preceding application.

(7)—3 to 4 weeks after blooming.  
**For**—Black Rot, Anthracnose, Insects.

**Use**—Same as for preceding application.

(8)—About 6 weeks after blooming. One later application may be necessary.  
**For**—Black Rot, Insects.

**Use**—Same as for preceding application.

The spray program for grapes centers around the treatment for black rot. The usual recommendations include three sprayings before blooming, after blooming and two weeks after blooming. In vineyards where the disease is of moderate consequence, three sprayings may be suffi-

cient, but where it is severe, five to seven may be required.

**Sprays Required**—The apple sprays ordinarily needed are 2, 3, 4 and 5 in the northern half of Missouri, while in the southern half 5 or more sprays are generally required. Every fruit grower should study carefully the conditions in his own orchard, including the insect pests and plant diseases, in order to be able to work out a spraying program best adapted to his own particular needs.

## CHERRY, PEACH, PLUM

(1)—Any time after leaves drop in fall, during nice weather in winter and until just before growth starts in spring.  
**For**—Peach Leaf Curl, Brown Rot, San Jose Scale.

**Use**—Commercial lime-sulphur (1 to 7). If scale is not present use Bordeaux mixture (4-4-50) or lime-sulphur solution (2 to 50).

(2)—Apply after blossoming and when most of the shucks and blossoms are off the fruit.  
**For**—Curculio, other biting insect, Peach Scab, Cherry Leaf Spot, Brown Rot, Plant Lice (Aphids).

**Use**—Arsenate of lead, dry,  $\frac{3}{4}$  lb. in self-boiled lime-sulphur (8-8-50), or in 50 gal. of water to which is added milk of lime, from 2 to 3 lbs. of stone lime. Add nicotine sulphate  $\frac{1}{2}$  pt. to 50 gal. spray if plant lice are injurious.

(3)—Apply 6 to 10 days after shucks and blossoms are off. If curculio is not serious, 2 weeks after shucks and blossoms are off.

**For**—Curculio, other biting insect, Brown Rot, Peach Scab, Cherry Leaf Spot, Plant Lice (Aphids).

**Use**—Self-boiled lime-sulphur (8-8-50) plus  $\frac{3}{4}$  lb. of dry arsenate of lead.

(4)—Apply 2 to 3 weeks after No. 3 or at least 3 weeks before fruit ripens.

**For**—Curculio, other biting insect, Brown Rot, Peach Scab, Cherry Leaf Spot.

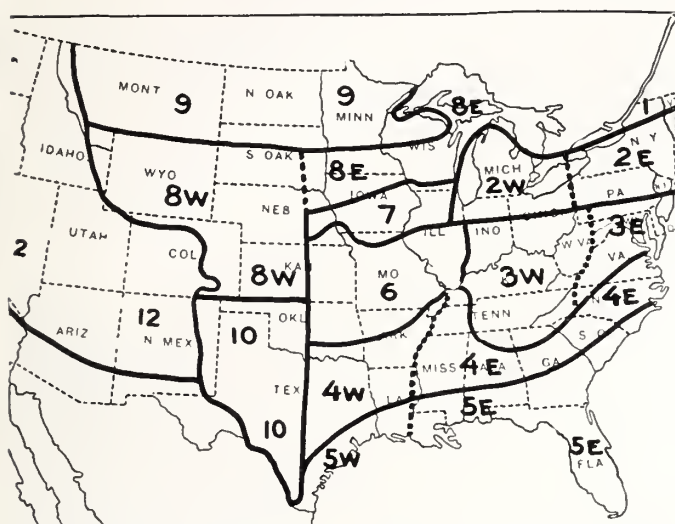
**Use**—Self-boiled lime-sulphur (8-8-50) plus  $\frac{3}{4}$  lb. dry arsenate of lead.

**Stone Fruits**—Where San Jose Scale and Peach Leaf Curl are not present, sprays No. 2 and No. 3 will generally afford sufficient protection. During wet season, Elberta and later varieties of peaches may need later applications of self-boiled lime-sulphur (8-8-50), but in no instance should any variety of stone fruit be sprayed with this mixture later than 3 weeks before picking time.



# Growers in Every State Endorse Neosho Stock

Wherever the "Variety" Succeeds Neosho Trees Thrive



## Select Varieties Carefully

This map shows the fruit districts of the United States. In the tables one star indicates that the variety is known to succeed, two stars indicate the most dependable.

It is advisable to consult with any of your neighbors who may have had experience in fruit-growing in your locality. Your State Experiment Station will also be glad to give you the benefit of their investigations.

The varieties are listed in their approximate order of ripening.

District Numbers										
APPLE	2	3	4E	4W	6	7	8	10	11	
Liveland Raspberry	•	•	•	•	•	•	•	•	•	•
Yellow Transparent	•	•	•	•	•	•	•	•	•	•
Red Astrachan	•	•	•	•	•	•	•	•	•	•
Wilson Red June	•	•	•	•	•	•	•	•	•	•
Duchess of Oldenburg	•	•	•	•	•	•	•	•	•	•
Sweet Bough	•	•	•	•	•	•	•	•	•	•
Early Harvest	•	•	•	•	•	•	•	•	•	•
Maiden Blush	•	•	•	•	•	•	•	•	•	•
Ada Red	•	•	•	•	•	•	•	•	•	•
Wealthy	•	•	•	•	•	•	•	•	•	•
King David	•	•	•	•	•	•	•	•	•	•
McIntosh	•	•	•	•	•	•	•	•	•	•
Grimes Golden	•	•	•	•	•	•	•	•	•	•
Wagener	•	•	•	•	•	•	•	•	•	•
Jonathan	•	•	•	•	•	•	•	•	•	•
Delicious	•	•	•	•	•	•	•	•	•	•
Winter Banana	•	•	•	•	•	•	•	•	•	•
Black Ben	•	•	•	•	•	•	•	•	•	•
Ben Davis	•	•	•	•	•	•	•	•	•	•
R. I. Greening	•	•	•	•	•	•	•	•	•	•
Senator (Oliver)	•	•	•	•	•	•	•	•	•	•
Winesap	•	•	•	•	•	•	•	•	•	•
Spitzenburg	•	•	•	•	•	•	•	•	•	•
Rome Beauty	•	•	•	•	•	•	•	•	•	•
Stayman	•	•	•	•	•	•	•	•	•	•
York Imperial	•	•	•	•	•	•	•	•	•	•
Northern Spy	•	•	•	•	•	•	•	•	•	•
M. B. Twig	•	•	•	•	•	•	•	•	•	•
Paragon	•	•	•	•	•	•	•	•	•	•
Baldwin	•	•	•	•	•	•	•	•	•	•
Yellow Newtown	•	•	•	•	•	•	•	•	•	•
CRABAPPLE	2	3	4E	4W	6	7	8	10	11	
Florence	•	•	•	•	•	•	•	•	•	•
Excelsior	•	•	•	•	•	•	•	•	•	•
Hyslop	•	•	•	•	•	•	•	•	•	•
QUINCE	2	3	4E	4W	6	7	8	10	11	
Flemish Beauty	•	•	•	•	•	•	•	•	•	•
Lincoln	•	•	•	•	•	•	•	•	•	•
Bartlett	•	•	•	•	•	•	•	•	•	•
Garber	•	•	•	•	•	•	•	•	•	•
Anjou	•	•	•	•	•	•	•	•	•	•
Seckel	•	•	•	•	•	•	•	•	•	•
Duchess d'Angouleme	•	•	•	•	•	•	•	•	•	•
Kieffer	•	•	•	•	•	•	•	•	•	•
Winter Nelis	•	•	•	•	•	•	•	•	•	•

District Numbers

PEACH	2	3	4E	4W	6	7	8	10	11
Mayflower	•	•	•	•	•	•	•	•	•
Greensboro	•	•	•	•	•	•	•	•	•
Arp Beauty	•	•	•	•	•	•	•	•	•
Erose (Early Rose)	•	•	•	•	•	•	•	•	•
Carman	•	•	•	•	•	•	•	•	•
Alton	•	•	•	•	•	•	•	•	•
Hiley	•	•	•	•	•	•	•	•	•
Champion	•	•	•	•	•	•	•	•	•
Rochester	•	•	•	•	•	•	•	•	•
Belle of Georgia	•	•	•	•	•	•	•	•	•
J. H. Hale	•	•	•	•	•	•	•	•	•
Early Elberta	•	•	•	•	•	•	•	•	•
Elberta Cling	•	•	•	•	•	•	•	•	•
Elberta	•	•	•	•	•	•	•	•	•
Crosby	•	•	•	•	•	•	•	•	•
Late Crawford	•	•	•	•	•	•	•	•	•
Late Elberta	•	•	•	•	•	•	•	•	•
Krummel	•	•	•	•	•	•	•	•	•
Heath Cling	•	•	•	•	•	•	•	•	•
PLUM	2	3	4E	4W	6	7	8	10	11
Waneta	•	•	•	•	•	•	•	•	•
Wild Goose	•	•	•	•	•	•	•	•	•
Omaha	•	•	•	•	•	•	•	•	•
Endicott	•	•	•	•	•	•	•	•	•
Abundance	•	•	•	•	•	•	•	•	•
America	•	•	•	•	•	•	•	•	•
Burbank	•	•	•	•	•	•	•	•	•
Red June	•	•	•	•	•	•	•	•	•
Green Gage	•	•	•	•	•	•	•	•	•
Satsuma	•	•	•	•	•	•	•	•	•
Wickson	•	•	•	•	•	•	•	•	•
Bradshaw	•	•	•	•	•	•	•	•	•
Lombard	•	•	•	•	•	•	•	•	•
Italian Prune	•	•	•	•	•	•	•	•	•
Shropshire	•	•	•	•	•	•	•	•	•
French Damson	•	•	•	•	•	•	•	•	•
APRICOT, Superb	2	3	4E	4W	6	7	8	10	11
Black Tartarian (Sweet)	•	•	•	•	•	•	•	•	•
Early Richmond (Sour)	•	•	•	•	•	•	•	•	•
Montmorency (Sour)	•	•	•	•	•	•	•	•	•
English Morello (Sour)	•	•	•	•	•	•	•	•	•
Napoleon (Sweet)	•	•	•	•	•	•	•	•	•
Bing	•	•	•	•	•	•	•	•	•
Gov. Wood	•	•	•	•	•	•	•	•	•
Windsor	•	•	•	•	•	•	•	•	•
CHERRY	2	3	4E	4W	6	7	8	10	11
Downing	•	•	•	•	•	•	•	•	•
Oregon Champion	•	•	•	•	•	•	•	•	•
GOOSEBERRY	2	3	4E	4W	6	7	8	10	11
London Market	•	•	•	•	•	•	•	•	•
Perfection	•	•	•	•	•	•	•	•	•
White Grape	•	•	•	•	•	•	•	•	•
CURRENT	2	3	4E	4W	6	7	8	10	11
Moore Early	•	•	•	•	•	•	•	•	•
Campbell Early	•	•	•	•	•	•	•	•	•
Worden	•	•	•	•	•	•	•	•	•
Delaware	•	•	•	•	•	•	•	•	•
Brighton	•	•	•	•	•	•	•	•	•
Concord	•	•	•	•	•	•	•	•	•
Diamond	•	•	•	•	•	•	•	•	•
Niagara	•	•	•	•	•	•	•	•	•
Agawam	•	•	•	•	•	•	•	•	•
BLACKBERRY	2	3	4E	4W	6	7	8	10	11
McDonald	•	•	•	•	•	•	•	•	•
Early Harvest	•	•	•	•	•	•	•	•	•
Eldorado	•	•	•	•	•	•	•	•	•
DEWBERRY, Lucretia	2	3	4E	4W	6	7	8	10	11
RASPBERRY	2	3	4E	4W	6	7	8	10	11
Cardinal	•	•	•	•	•	•	•	•	•
Cumberland	•	•	•	•	•	•	•	•	•
Cuthbert	•	•	•	•	•	•	•	•	•
Kansas	•	•	•	•	•	•	•	•	•
Latham	•	•	•	•	•	•	•	•	•
Ranere (St. Regis)	•	•	•	•	•	•	•	•	•
STRAWBERRY	2	3	4E	4W	6	7	8	10	11
Ozark Early	•	•	•	•	•	•	•	•	•
Aroma	•	•	•	•	•	•	•	•	•
Dunlap	•	•	•	•	•	•	•	•	•
Progressive	•	•	•	•	•	•	•	•	•
Champion	•	•	•	•	•	•	•	•	•
Mastodon	•	•	•	•	•	•	•	•	•



# Profit and Pleasure in the "Home Fruit Garden"

Well-ripened sound fruit is a valuable food and in some form, fresh, canned or preserved, should form part of every meal. Fruit is essential for the proper growth and health of children.

The growing of fruit for home use means a large saving in the family living expenses for it is now on the list of high-priced foods. Furthermore, you can never know the delectability of fruits until you pick them fresh and ripe from the home garden. Varieties grown for market are selected for

productiveness, color and shipping, and to stand shipping, but for home use, quality is the first consideration.

Anyone with a little ground can grow some fruit—Strawberries and at least a few grapes, on the fence, arbor, wall or building.

You can grow first class fruit if you will do your part. We guarantee what you order from us to be satisfactory upon arrival and will show you how to take care of it. It is a question of taking only one step at a time. (For information on varieties adapted to your district, see page 39.)

The following plan taking about 3/4 of an acre, will provide ample supplies of delicious fruits for the entire year and at surprisingly small cost.

Row A = 6 Apple, 40 ft. apart. (30 ft. between rows A and B.)

Row B = 6 Apple, 40 ft. apart. (25 ft. between rows B and C.)

Row C = 11 Peach, 20 ft. apart. (20 ft. between rows C and D.)

Row D = 5 Cherry and 6 Plum, 20 ft. apart. (15 ft. between rows D and E.)

Row E = 25 Grapes, 8 ft. apart (Delaware 6 ft. apart). (10 ft. between rows E and F.)

Row F = 66 Raspberry, 3 ft. apart. (8 ft. between rows F and G.)

Row G = 66 Blackberry, 3 ft. apart. (8 ft. between rows G and H.)

Row H = 30 Asparagus, 15 in. apart; 6 Rhubarb 2 ft. apart.

Note.—10 Peach or Sour Cherry or Plum trees can be grown in rows A and B between the apple trees. That is a good place also for Currants or Gooseberries, spaced 4 ft. apart. Between the rows of fruit trees there is room for Strawberries or vegetables.

**THE FIRST STEP** is to select a location. It is better to have the fruit garden some distance from the house than to sacrifice success by planting on a poor site or soil.

A site that is higher than the land around it is preferable since it has better air and water drainage, minimizing danger of loss from frost and avoiding wet feet, which most fruit trees and plants abhor.

## Planting Distances

Some varieties need more room when full grown than others of same kind. Yellow Transparent, a small upright grower, and Rhode Island Greening, a large spreading tree, represent extremes in apple trees.

Apple.....	25 to 50 ft. apart
Apricot.....	16 to 25 ft. apart
Cherry, Sweet.....	20 to 30 ft. apart
Cherry, Sour.....	16 to 20 ft. apart
Peach or Plum.....	16 to 20 ft. apart
Pear, Standard.....	20 to 30 ft. apart
Pear, Dwarf.....	10 to 15 ft. apart
Quince.....	10 to 15 ft. apart

Plants	Rows
Blackberry.....	2 to 5 ft.
Black Raspberry...	3 ft.
Red Raspberry.....	2 to 3 ft.
Currant.....	4 to 6 ft.
Gooseberry.....	4 to 6 ft.
Grape.....	8 to 10 ft.
Strawberry.....	1 1/2 to 3 ft.
Asparagus.....	15 in.
Rhubarb.....	2 ft.

To determine number of trees per acre for any given distance, multiply distance between trees in row by width of row. Take resulting answer and divide 43,560 by it. For example: To determine number of trees, planted 30x30, required to set one acre.  $30 \times 30 = 900$ .  $43,560 \div 900 = 49$  trees per acre.

**THE SECOND STEP** is to place your order with a reliable firm. Inferior stock is costly at any price. You may forget the price but not the quality.

## Preparing the Ground

Land that has been in some cultivated farm or garden crop is usually in the best condition for fruit trees and plants. Plow deep and work the ground thoroughly.

An ideal soil, mellow, deep, fertile loam, is not often available and it may even be necessary to go to considerable trouble to improve the dirt you have; for instance, for fruit trees dig a hole 5 feet in diameter, throwing the surface soil to one side, then digging out the subsoil to a depth of 6 to 12 inches, putting it in a pile by itself.

Then throw in a few shovelfuls of well-decayed manure. Next throw in the surface soil. In this set the tree and use other surface soil to fill the hole. The other pile of subsoil can be scattered on the surface. Well-rotted manure, wood ashes and ground bone or cottonseed meal can be mixed in with the surface soil used to fill the hole, but care should be taken to avoid having too much of any fertilizer come in contact with the roots. For gooseberries and currants the holes should be about 2 feet in diameter and for raspberries and blackberries dig a trench 15 to 18 inches wide.

## Handling Trees on Arrival

If possible plant at once. If the weather is too cold, put the box or bundle in a cool but frost-proof cellar.

If the weather is warm and you are not ready to plant, unpack at once and place the stock in a cool cellar, covering the roots with damp packing from the box or bundle and spread old sacks or canvas over them. Sprinkle enough water on the trees to keep them from drying out, but do not drench the roots and tops. If possible heel them in, preferably at the north side of a building where they will have protection from the sun and their development will be retarded.

## Heeling in Trees

Select a well-drained location. Dig a trench deep enough and wide enough to hold the roots without crowding. Fine, moist soil should be packed rather firmly about the roots. Then heap more soil on the roots and a third or more of the tops. Some growers completely cover the trees. If the ground is too dry moisten the dirt about the roots. Some growers get their trees in the fall and heel them in over winter so as to be sure to have them on hand when conditions are right for planting in the spring.

## Treatment for "Dried Out" Trees

Sometimes trees are somewhat dried out in transit but can be restored by burying them in wet dirt or put in a pond for one to three days.

## Handling Trees at Planting

Success is largely a matter of avoiding exposure of roots and tops to the sun or drying winds, and to thorough firming the soil about the roots. Cut off any bruised or broken ends and shorten any roots that are extra long and put the trees at once in a barrel or tub about one-fourth full of water. Some use a semi-liquid of water and dirt (not heavy clay).

## Setting the Trees

Assuming that the ground has been properly prepared, it will not be necessary to dig large holes. 12 to 18 inches square and about the same depth will be large enough for the average size apple tree.

The top soil should be put to one side so that it can be used to fill in about the roots.

After a tree has been placed in its exact position and about as deep as it stood in the nursery, the roots are spread out and good top soil worked under and around them. Moving the tree slightly up and down will help to get the soil under the roots. Then fill the hole half full and tramp the soil firmly. After this fill the hole to the top and again tramp the soil. Lastly throw a few shovelfuls of loose dirt about the tree to prevent loss of moisture.

If you have to plant when the ground is very dry a bucket of water should be poured around the roots after they have been well covered but before the hole is filled. Ordinarily watering is not neces-

sary and might do more harm than good. Don't put manure or other fertilizer in the holes in contact with the roots; spread it on the ground around the tree.

## Pruning the Tops

Even with a special tree-digger and particular care, part of the roots of trees dug in the nursery are cut off and the small feeding roots are lost anyway, so the tops have to be cut back to restore the balance. This is done either just before or after planting.

**ONE-YEAR APPLE TREES**, without side branches, are cut off just above a sound bud, 24 to 30 inches from the ground.

Some varieties of one-year budded apple like Jonathan have side branches unless they have been pruned in the nursery. These and two-year apple should have all but 3 to 5 side branches cut off smooth close to the trunk. Select these branches on different sides of the trunk and spaced 6 to 8 inches apart. Leave also one branch growing from the top. Shorten this leader a little and cut back the selected side branches 1/2 to 3/4 their length.

**PEAR TREES** are pruned like apple but usually headed lower, 12 to 15 inches from the ground.

**DWARF PEARS** are usually trained to pyramid form, which calls for a central trunk with side branches, the longest nearest the ground.

**PEACH**—The fruit is borne on last year's wood. After the tree is planted, cut off the top 18 to 24 inches above the ground and cut off any side branches about an inch from the trunk, leaving one or two good buds.

**PLUMS AND APRICOTS** are pruned like peach trees.

**ONE-YEAR SWEET CHERRY** are usually whips which are cut off just above a bud 2 1/2 to 3 ft. from the ground.

**SOOR CHERRY**, even one-year, are almost always branched and the general practice is to cut off close to the trunk all but 3 to 5 selected side branches, leaving the central leader unpruned.

**QUINCE** are headed low, about 18 inches high.

## Care of Transplanted Trees

The first two years is the critical period. It is of vital importance to have them make a good start, for summer drought is likely to prove fatal to trees of low vigor and slow growth. So it is necessary to cultivate thoroughly and systematically to conserve the moisture and aerate the soil. The first summer the soil should be frequently stirred to make a soil mulch and prevent baking and crusting of the surface. The second summer the ground should first be plowed deep, as early in the spring as possible. Cultivation should be stopped about July 15th to August 1st that the trees may have time to mature and harden in preparation for winter.

## Common Causes of Failure to Grow

1. Planting trees that were dug in the nursery before they became dormant.
2. Drying out from exposure to sun or drying winds, or freezing in the cold before setting out.
3. Crowding the roots into small holes cut in the sod.
4. Failure to firm the soil closely about the roots.
5. Leaving the trees or plants uncultivated.
6. Leaving the tops unpruned.
7. Not planting at the proper depth.
8. Planting in soil too wet or too dry.





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#### GRAPES

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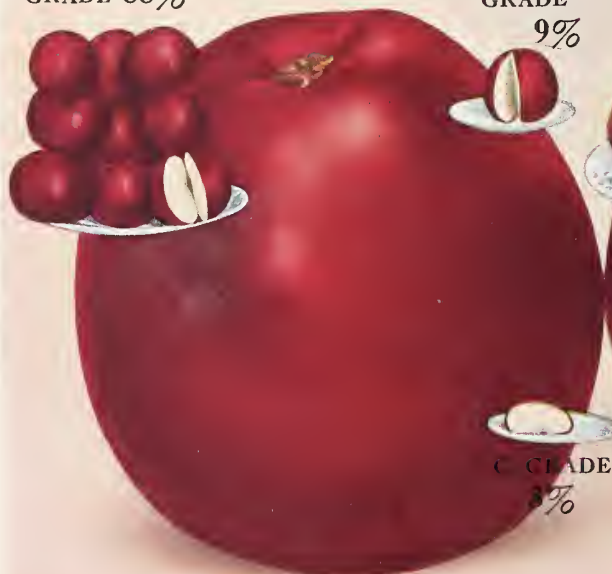
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